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ABSTRACT

Policy and practice for screening children for lead poisoning have dominated the dialogue about the health care system's role in lead poisoning prevention, with little attention directed to how the health care system responds to a lead-poisoned child once identified. This report details a study of the case management and environmental investigation services now being provided in each state, the District of Columbia, and 15 of 17 selected local jurisdictions, thereby providing baseline information that will inform policy and program decisions at the state and national levels. The report provides information on lead poisoning, recommendations of the Centers for Disease Control and Prevention for screening and treatment, recommendations of the American Academy of Pediatrics, and information on Medicaid policy. Findings are reported and recommendations made in four areas: (1) initiating services, including state blood lead reporting systems and blood lead levels at which services are provided; (2) setting standards for services; (3) financing services, including Medicaid reimbursement issues; and (4) tracking and evaluating services. A glossary of abbreviations is appended. (KB)

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Another Link in the Chain

State Policies and Practices for Case Management and Environmental Investigation for Lead-Poisoned Children

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Alliance To End Childhood Lead Poisoning
The National Center for Lead-Safe Housing

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The Alliance is a national, non-profit public interest organization dedicated exclusively to preventing childhood lead poisoning.

The Alliance's mission is to frame the national agenda, formulate innovative approaches, and bring critical resources to bear — scientific and technical knowledge, law and public policy, economic forces, national allies, and community organizations and leaders — to prevent childhood lead poisoning.

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The Center was founded in 1992 to bring the housing, environmental and public health communities together to combat childhood lead poisoning.

The Center seeks to develop, validate and promote the adoption of cost-effective, practical strategies that sharply reduce the incidence of lead poisoning while preserving the nation's stock of affordable housing.

Additional Copies

Additional copies of "Another Link in the Chain: State Policies and Practices for Case Management and Environmental Investigation for Lead-Poisoned Children" can be obtained from either the Alliance or the National Center.

ANOTHER LINK IN THE CHAIN:

STATE POLICIES AND PRACTICES FOR CASE MANAGEMENT AND ENVIRONMENTAL INVESTIGATION FOR LEAD-POISONED CHILDREN

June 1999

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This report is based on analysis of responses to a survey distributed in the fall of 1998 and a supplementary survey distributed in December 1998. We were extremely fortunate to receive replies from every state program and the District of Columbia, along with a number of local programs. We would like to express our sincere appreciation to the staff of state and local childhood lead poisoning prevention programs, public health departments, and environmental and other agencies for their significant time investment to complete the surveys and provide the additional information needed to make our report accurate and complete. Many of these staff also took additional time to speak with us on the phone to clarify particular items. We thank them all.

In presenting the survey results, we have tried to be fair and objective and apologize in advance if we have gotten anything wrong or maligned any programs unintentionally. The picture of case management and environmental investigation services is complicated by many shades of grey. Our purpose is not to embarrass or chastise, but to focus on opportunities for constructive change.

Kristen Welker, RN, a graduate student at the Johns Hopkins University School of Nursing and a student intern with the National Center for Lead-Safe Housing at the time of the survey, monitored the survey responses and followed-up with programs whose responses were still outstanding. Without Kristen's dedicated efforts, we would not have achieved such a complete response.

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CHAPTER 1
EXECUTIVE SUMMARY

The first line of defense in protecting children from lead poisoning is primary prevention, which means controlling lead hazards before children are ever exposed to lead. However, the broad distribution of lead in the U.S. housing stock has made achieving primary prevention for all children an elusive goal. As a result, secondary prevention strategies continue to play a vital role in protecting children from lead poisoning. Secondary prevention entails identifying the lead-poisoned child, providing medical care and case management, identifying the source of the child's lead exposure (environmental investigation), and then ensuring that any lead hazards identified are controlled to prevent the child's further exposure to lead.

Over the past few years, there has been considerable public attention to and controversy surrounding policies for screening young children for lead poisoning. There has also been considerable discussion about primary prevention and housing-based approaches to primary prevention, as a consequence of enactment of Title X and federal funding for the HUD Lead Hazard Control Grants program. In contrast, there has been little discussion of what actually happens once a lead-poisoned child is identified. The Alliance To End Childhood Lead Poisoning and the National Center for Lead-Safe Housing agreed that it was time to reexamine the responses to lead-poisoned children nationwide. We decided that characterizing the case management and environmental investigation services now being provided in each state would be a useful first step.
We hope this report's documentation of state policies will help sharpen discussion and decision-making at many levels. This report is timely for at least four reasons.

First, this report provides the information needed to ensure that case management and environmental investigation systems are "in good working order" to handle the increased caseloads that can be expected from expanded lead screening of high-risk children. Recent reports from the General Accounting Office (GAO) have focused the spotlight on the failure of federal heath programs to screen high-risk children for lead poisoning. GAO documented that just 19% of Medicaid-enrolled children aged 1 through 5 are being screened as required by law, and that the majority of children needing case management and environmental investigation are enrolled in Medicaid. As a consequence, considerable attention is being paid now to improving lead screening rates among Medicaid children. In addition, many states are developing CDC-recommended lead screening plans to identify and target the highest-risk children for lead screening.

Second, this report raises a number of policy and program issues that should be considered as states seek to ensure that lead-poisoned children enrolled in Medicaid managed care plans are provided with appropriate follow-up care. Many states are still developing or fine-tuning their mechanisms for overseeing and coordinating care with Medicaid managed care plans, as well as state Children's Health Insurance Programs.

Third, this report can help to inform a number of pending policy decisions. The Health Care Financing Administration has been receiving criticism from many quarters for its policy prohibiting Medicaid reimbursement for analysis of the environmental samples needed for an adequate environmental investigation to identify the lead hazards in a poisoned child's home. In addition, the Centers for Disease Control and Prevention's Advisory Committee on Childhood Lead Poisoning Prevention is currently reviewing the evidence base for case management services. Finally, U.S. Senators Robert Torricelli (D-NJ) and Jack Reed (D-RI) and U.S. Representative Robert Menendez (D-NJ) are introducing federal legislation to address these issues in Congress.

Fourth, the sharp decline in the number of children with elevated blood lead levels documented by NHANES III, Phase 2 offers opportunities never before available for using screening and follow-up measures to advance prevention. For the first time, the caseload of lead-poisoned children in jurisdictions historically overwhelmed by the number lead-poisoned children has become "manageable." We have a responsibility to respond promptly and humanely to children with elevated blood lead levels as well as the opportunity to use these interventions to advance prevention. Childhood lead poisoning is entirely preventable. But achieving this goal requires us to sharpen our tools and redouble prevention efforts, rather than being complacent or uncritically following "established procedures" by rote.

Scope of the Survey

The scope of this survey and report is limited to describing and evaluating the quality of self-reported state policies and practices for environmental investigation and case management. This report therefore could not assess state primary prevention initiatives, lead screening policies and performance, or even medical care provided to lead-poisoned children. The most effective state programs are those that succeed at primary prevention. Once a child is exposed to lead, the overall effectiveness of the response must be judged by performance in all three areas of secondary prevention — and a single weak link in the chain of secondary prevention activities can undermine the effectiveness of the entire response. Having exemplary environmental investigation and case management services is useless if the state fails to screen children at risk for lead poisoning to identify those with elevated blood lead levels. Similarly, providing good environmental investigation and case management services is pointless if these activities do not trigger action to control identified lead hazards.

It is also important to be clear about what is meant by each key term. "Environmental investigation" means the examination of a child's living environment, usually the home, to determine the source or sources of lead exposure for a child with an elevated blood lead level. For the purposes of this report, "case management" means coordination, provision, and oversight of the services to the family necessary to ensure that lead-poisoned children achieve reductions in blood lead levels. In addition, case management includes coordination, but not provision and oversight, of the clinical or environmental care.

Survey Methodology and Responses

To gather the information about current policies and practices for case management and environmental investigation, an initial survey and a supplementary survey were sent to directors of state lead poisoning prevention programs. In states where these programs do not exist, we identified knowledgeable respondents by contacting surveillance grantees of the Centers for Disease Control and Prevention (CDC) or other program staff responsible for lead services (often a division of the state health department). Ultimately, we received responses from all 50 states and the District of Columbia. We also received responses from 15 local lead programs, which allowed us to better characterize several important dimensions of current practice of state programs.

Key Findings and Recommendations on Initiating Services

State Blood Lead Reporting Systems

Central reporting of elevated blood lead levels is critical to ensuring timely follow-up care for lead-poisoned children. Although nearly all (47) states have a reporting system for blood lead levels, the utility of the systems for timely referral of children needing follow-up services varies considerably. In addition, the lack of uniform national recommendations for reporting blood lead levels has created a burden on private laboratories and others that must report this information to many different states in a variety of formats, and has made it difficult to assess and compare blood lead data across states.

- CDC should establish national standards for blood lead reporting to ensure standardization of blood lead data and enable timely follow-up for lead-poisoned children.
- States with blood lead reporting systems should evaluate the effectiveness of their systems in triggering prompt identification and follow-up of lead-poisoned children and address any identified deficiencies.
- States without a central reporting system for blood lead levels should establish one as soon as possible.

Blood Lead Levels At Which Services Are Provided

CDC's 1997 guidance recommends that both case management and environmental investigation be provided at blood lead levels of 20 μg/dL or persistent levels of 15-19 μg/dL. Encouragingly, most states are providing services to children at or even below the blood lead thresholds recommended by CDC. For environmental investigation, 20 states perform environmental investigation only at blood lead levels at or above 20 μg/dL (not persistent levels above 15 μg/dL) and 2 states use a trigger of 25 μg/dL. Since environmental investigation permits the identification and subsequent control of lead hazards, early hazard identification by providing environmental investigation at lower blood lead levels is a positive preventive measure.

Some states are able to vary the scope of case management services provided by blood lead level, providing less intensive services at lower blood lead levels in order to intervene before blood lead levels rise. Thus, it is not surprising that many states report offering case management at lower blood lead levels than recommended by CDC. Six states offer case management at precisely the level recommended by CDC, and 28 states offer the service at lower levels (single levels above 15 µg/dL or 10 µg/dL). Fourteen states provide case management only at blood lead levels of 20 µg/dL, but not persistent levels between 15 and 19 µg/dL as recommended by CDC.

- At a minimum, states should provide case management and environmental investigation to children at the levels recommended by CDC, and, resources permitting, preventive services and environmental investigation to as many children as possible with blood lead elevations at or above 10 µg/dL.

Key Findings and Recommendations on Setting Standards for Services

Case Management Standards

The lack of national standards for case management of lead-poisoned children has created variation in approach across the country, and made achieving reimbursement from Medicaid and other insurers more difficult. At present, only 29 state programs indicated they had written standards for case management. However, a consensus document *Case Management for Childhood Lead Poisoning*, developed by the National Center for Lead-Safe Housing, describing professional standards for case management for lead-poisoned children already serves as a guide for some state and local programs. Other complementary documents exist or are under development.

Any case management protocol or standard must include certain elements to ensure quality care. Our survey found that states performed well in some areas, but needed improvement in others. For example, although most states (43) provide home visits as part of case management, many programs make only a single home visit, which is unlikely to be sufficient for ensuring that steps are taken to improve the health status of the child. In addition, almost one-third (29%) of programs fail to inquire about a lead-poisoned child's WIC status, an important oversight given the importance of good nutrition for lead-poisoned children. Because they are an essential part of the solution, families should be systematically involved in all aspects of the case management process. Yet, our survey found that more than one-third of state programs (37%) fail to include families in the planning process and only one state program indicated that it routinely refers families to parent support groups in the community. The indefinite continuation of cases is also a sign of a weak case management, yet 14 states reported that they had no criteria for when to close a case.

Case management standards must also describe the specific interventions to improve the health status of the child that should be provided by case managers. Nearly all states provide some type of educational intervention, including education focused on lead and lead exposure risks, lead-specific cleaning practices, and nutritional counseling. Two-thirds of state programs (67%) provide assistance with referrals to other necessary services and 80% provide follow-up of identified problems. Six state programs indicate that they now refer young children routinely to Early Intervention programs for identification and treatment of possible developmental problems. Surprisingly, 10 states provide specialized cleaning services to reduce immediate lead dust hazards in homes as part of their case management interventions. However, due to funding considerations, most of these states are not able to make cleaning available except in homes in designated target areas and under special circumstances.

- All states should have in place a protocol that identifies minimum standards for initiation, performance, and tracking of case management services for lead-poisoned children, including standards for data collection and outcome measurements and for professional staffing and oversight.
- CDC or its Advisory Committee on Lead Poisoning Prevention should endorse a set of national standards for case management for lead-poisoned children, beginning with a definition of the term case management. The consensus standards developed by the National Center for Lead-Safe Housing *(Case Management for Childhood Lead Poisoning)* offer a thorough, current, and complete set of expert standards for quick review and endorsement.
- Once national standards are in place, state protocols should be reviewed for consistency. In the interim, states should utilize written protocols specifying the services to be provided along with performance standards and record-keeping criteria.
- Case management standards should include a minimum of two case management visits to the home of a lead-poisoned child.
- State case management protocols should include standards for assessment, specifically including assessment of WIC status.
- State programs should evaluate the extent to which families are being involved in case management and make necessary program modifications to ensure that families are fully involved in planning, implementation, and evaluation efforts.
- States should examine their referral practices to ensure that parents of lead-poisoned children are routinely referred to available resources, including community-based parent support groups, where they exist, in order to connect families with another source of support and assistance.

- All states should have case closure criteria that encompass reduction in a child's blood lead level and control of environmental lead hazards and procedures for administrative closure when needed.
- States that routinely follow children until 6 years of age should evaluate whether such a lengthy follow-up benefits the child and family.
- Case management standards should specify recommended interventions, including: basic educational interventions; referrals to Early Intervention services for developmental assessment, referral services for WIC, housing (emergency and long-term solutions), health care, and transportation, as needed; follow-up of identified problems as needed; and, follow-up to ensure that families receive needed services.

Environmental Investigation Standards

State programs vary widely as to what activities constitute an environmental investigation to determine the source of lead exposure. Only 35 states have written protocols for environmental investigation. Where written protocols do exist, the scope of services and the kinds of data collected vary extensively. For example, some programs rely almost exclusively on XRF analysis to test the lead content of paint, and interpret a positive reading for the presence of lead-based paint as source identification. Other programs focus on current pathways of exposure by taking dust wipe and paint chip samples, assessing paint condition, and in some cases evaluating exposures from bare soil and drinking water. And, still other programs operate on a case-by-case basis.

Just 35 states had minimum requirements in place for those who perform environmental investigations for lead-poisoned children; most frequently they required state-certified risk assessors or lead inspectors. Training in the certified disciplines of risk assessor and lead inspector provides a core foundation of knowledge as well as credentials that may be important in any legal proceedings. At the same time, additional training beyond these certified disciplines is needed, because the scope of the environmental investigation of a lead-poisoned child is much more comprehensive than a standard residential lead inspection, and somewhat broader than a risk assessment.

The responses to our survey do not make it possible to determine the extent to which states are performing (or requiring to be performed) clearance testing after work has been done to respond to lead hazards identified in the home of a lead-poisoned child. Follow-up visits are essential to ensure that corrective measures were taken and lead safety precautions followed. Because lead-contaminated dust can be invisible to the naked eye, clearance dust tests are critical to ensure the effectiveness and safety of the corrective measures in the vast majority of situations. Post-activity dust tests should be taken after completion of any paint repair or other projects that could generate lead-dust contamination.

Many program staff expressed frustration that environmental investigations frequently do not result in any corrective action. The ultimate measure of the success of an environmental investigation is the action that results to control lead hazards to reduce the child's continued lead exposure. At the extreme, conducting a full environmental investigation is irrelevant if no measures to reduce lead exposure occur as a consequence.

- States should have a written protocol identifying the components of an environmental investigation for a lead-poisoned child. Appropriate flexibility and customization based on specific case factors and local sources are legitimate and important elements.
- The protocol for environmental investigation should include routine collection of data on important pathways of exposure (particularly interior dust lead) and documentation of poor paint condition. The XRF analyzer should never be relied upon as the only tool for environmental investigation. Chapter 16 of HUD's *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing* provides the most comprehensive and current guidance for environmental investigations.
- State programs should begin using the more protective dust lead standards being proposed by EPA and HUD: no higher than 50 μg/square foot for floors and 250 μg/square foot for window sills.
- Environmental investigations need to generate "actionable" data to ensure that all lead hazards identified are controlled – the ultimate measure of effectiveness. In most states, improved systems are needed to document and track corrective actions to control lead hazards to help ensure that environmental investigations actually result in health benefits to children.
- Health department program staff performing an environmental investigation for a lead-poisoned child should be trained and certified as lead professionals. This will serve to increase professionalism in the field as well as give the results of the investigation greater standing if challenged in court.

- Individuals conducting environmental investigations need additional training to assess sources of lead exposure beyond the scope of the traditional EPA/HUD risk assessment.
- When state or local programs or managed care organizations contract environmental investigations out to certified lead evaluators, it is important that they be charged with conducting a comprehensive evaluation of potential exposure sources as described in Chapter 16 of HUD's *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing.*
- State programs need to make clearance dust tests a routine check to confirm that lead dust hazards are not left behind after corrective measures are taken in the home of a lead-poisoned child.

Lead Hazard Control: Legal Authority and Resources

Although this survey was not able to quantify the extent to which state and local programs succeed in controlling hazards identified in home of a lead-poisoned child, many programs indicated that this is a major problem. Twenty-eight states, more than 54%, do not have legal authority to order remediation of homes with identified lead hazards. More than 40% of all states (22 state programs) indicate that no funding is available in their state to help property owners pay for even a portion of the necessary lead hazard control. No state reported sufficient funds for lead hazard control. The lack of legal authority to order remediation coupled with the lack of resources to fund abatement and lead hazard control is a major stumbling block for lead poisoning prevention and treatment progress nationally.

- States should consider the model legislative language reflecting the principles and recommended lead-safety standards of the National Task Force of Lead-Based Paint Hazard Reduction and Financing developed by the National Conference of State Legislatures.

Key Findings and Recommendations on Financing Services

For both case management and environmental investigation, adequate funding for services is a central challenge to providing timely and quality services. Most programs have patched together funding from federal, state, and local sources as best they can. For case management, 23 states reported relying primarily on federal funds, 12 states rely primarily on state funds, and 4 states on Medicaid. 6 states reported a combination of sources. Even in states with Medicaid reimbursement, Medicaid provides only part of the support for case management. For environmental investigation, CDC grant funds are the most common source of funds for environmental investigation, with 22 states reporting reliance on this funding source; some use CDC funds exclusively. Medicaid reimbursement is the next most common source of funding for environmental investigation, with 20 states receiving at least some reimbursement for services provided for Medicaid-enrolled children. State funds provide support in 17 states and local or county funds in 15 states. Other sources fill in the gaps.

However, it appears that financing is not the strongest area of state case management and environmental investigation programs. Many state program staffs are not aware of how their programs actually receive funds for case management and environmental investigation services, and others seemed to be confused about the concept of "reimbursement" for services. At least 6 states provided different answers to the GAO than they provided to us on the question of state Medicaid policy for reimbursement of environmental investigations. GAO surveyed EPSDT agencies while we surveyed program staff responsible for lead-related services, but both should be expected to be able to answer this question accurately.

Twenty states currently seek and receive Medicaid reimbursement for case management, and 22 states report Medicaid reimbursement for environmental investigation, (although apparently slightly fewer are actually collecting Medicaid dollars at this time). States using state (or local) funds for environmental investigation or case management without receiving Medicaid reimbursement are effectively forgoing the federal Medicaid match for state spending. By all rights, Medicaid should pay the costs of these medically necessary treatment services for enrolled children. In addition, by securing Medicaid reimbursement, states may be able to shift the state's share of costs to the Medicaid budget, rather than using the limited funds designated for lead poisoning prevention or other public health functions. Similarly, states that use CDC lead poisoning prevention grant funds for environmental investigation without securing Medicaid reimbursement should consider the opportunity costs. Since CDC grant funds are finite and scarce, the decision not to seek Medicaid reimbursement means forgoing other possible uses, such as initiatives targeted to primary prevention.

The amounts reimbursed by Medicaid for both services vary dramatically from state to state, ranging from $38 to $490 for environmental investigation and from $25 for one educational visit to a maximum of $1,610 for 8 months of follow-up for case management. Although the set of services provided varies to some extent state-by-state, the actual cost of providing the services is unlikely to vary so widely. Ideally, reimbursement should reflect the actual costs of service delivery. State and local programs cannot successfully bill Medicaid or managed care for services provided unless they can document the actual cost of providing those services.

States following HUD Guidance for investigating the home of a lead-poisoned child are likely to need to conduct a number of specific laboratory tests, possibly including interior dust wipes, paint chips, soil, and drinking water. Yet a vital source of funding for environmental investigation has recently been restricted. In September 1998, HCFA erected a barrier to quality care when it "clarified" its policy on reimbursement for environmental investigation in its update to the State Medicaid Manual. HCFA's written policy now inappropriately prohibits reimbursement for the environmental sampling and analysis (such as measuring lead in dust, soil, and water) that is needed to investigate the source of lead exposure in a poisoned child's home — and makes it impossible to achieve the essential purpose of environmental investigation. In effect, the new language limits coverage only to XRF analysis to determine the lead content of paint, which usually does not confirm the immediate exposure hazard or reveal what control action is needed to reduce exposure.

Several states reported arbitrary limits on State Medicaid reimbursement for environmental investigation services, such as limiting payment to one investigation per child per lifetime. It appears that such limits on environmental investigation are illegal, since the federal EPSDT statute entitles Medicaid children to all services medically necessary to respond to a condition identified during an EPSDT screen.

Only one-third of states could report how many or what percentage of their cases were even enrolled in Medicaid. States must be able to document the number of Medicaid-enrolled children receiving services in order to receive or make informed decisions about reimbursement.

38 states reported the enrollment of at least some Medicaid children into managed care plans, but only 24 of these reported that their state's contract(s) with managed care organizations (MCOs) contained any language about lead screening or treatment services. Most reported that the language dealt only with lead screening or generic EPSDT screening requirements, missing an opportunity to describe clear duties for health care providers for lead screening and follow-up care.

- State Medicaid agencies that have not yet established mechanisms for Medicaid reimbursement for case management and environmental investigation should do so immediately.
- Health departments providing case management and environmental investigation should contact the Medicaid agency to ensure that reimbursement is available to public sector service providers, customized for the specific situation.
- CDC should require its CLPP grantees to pursue Medicaid reimbursement of case management and environmental investigation as a condition of funding.
- HCFA should revise its guidance to permit Medicaid reimbursement for the costs of the laboratory samples necessary to determine the source of lead exposure in the home a lead-poisoned child.
- Medicaid should fund emergency services to reduce lead hazards for children with EBL, including lead dust removal and interim measures to immediately reduce hazards in the child's home. If the child's home can not be made safe, Medicaid should reimburse the cost of emergency relocation.
- State programs should determine and document the actual costs of providing case management and environmental investigation services.
- State lead programs should negotiate adequate reimbursement rates with the State Medicaid agency, based on documentation of the costs of providing services.
- Based on current costs of service delivery, state and local programs should ensure that their budgets and funding requests seek the resources necessary to adequately manage their caseloads.
- States should consider billing private insurance providers for services provided to children enrolled in such plans.
- HCFA should disallow, and states should discontinue the use of, arbitrary limits on State Medicaid reimbursement for environmental investigation services unless they are shown to have a medical basis.
- State programs should establish the administrative means necessary to track the insurance status (especially Medicaid enrollment) of lead-poisoned children receiving case management and environmental investigation services.
- CDC should require its CLPP and Surveillance grantees to pursue collection of data on the insurance status (especially Medicaid enrollment) of the children receiving case management and environmental investigation services.
- State Medicaid contracts with MCOs should contain clear language describing the specific duties of the MCOs, making clear whether they are expected to deliver services, make referrals, or

provide reimbursement to other agencies for services provided. States should address lead screening, diagnosis, treatment, and follow-up services explicitly, rather than relying on general language referencing EPSDT. States should familiarize themselves with and utilize the lead purchasing specifications for Medicaid managed care contracts that have been developed by the Center for Health Policy and Research at the George Washington University (available at "www.gwumc.edu/chpr"). Where such language has already been incorporated into contracts, it should be enforced.

- Where case management and environmental investigation are provided by public sector providers and Medicaid children are enrolled in capitated managed care plans, states should consider financing case management and environmental investigation through a "carve-out" to ensure that providers are reimbursed for their costs of providing services

Key Findings and Recommendations on Tracking and Evaluating Services

Very few programs are tracking outcomes of children identified as lead poisoned. Most states count the number of home visits or completed environmental investigations, but very few monitor the outcomes for children and the corrective measures taken in those properties found to have poisoned a child. For example, eight states did not know how many lead-poisoned children needing follow-up care had been identified in 1997 and 23 states did not know how many of their lead-poisoned children had actually received services.

Only 15 states reported providing oversight to ensure that all children identified as lead-poisoned receive appropriate follow-up care, including case management and environmental investigation services. Such oversight would be particularly useful in the 24 states that rely on providers outside the health department to provide case management services. Only 13 states indicated that they collected and tabulated data on the identified source(s) of lead exposure from environmental investigations.

Tracking case management and environmental investigation activities is not enough in itself. The ultimate measure of effectiveness is reducing the child's lead exposure and blood lead level. Case management and environmental investigation programs should be thoroughly evaluated to identify programs that are effective, as well as to identify problems that require additional staff training, technical assistance, or other attention. In particular, this survey suggests that staff in many states could benefit from training in key areas, such as program evaluation and Medicaid and insurance reimbursement.

- States should establish the administrative capacity at either the state or local level to track delivery of case management and environmental investigation services to lead-poisoned children, to track outcomes of interest for individual children, and to ensure that appropriate services are provided to lead-poisoned children.
- CDC should require its CLPP grantees to report on case management service delivery outcome measures in their required reports. Such reporting would help build capacity for tracking and begin to document the effectiveness of program follow-up efforts.
- States should establish, collect, and report outcome measures for case management.
- All states should collect and aggregate data on lead sources, including the proximate cause(s) of lead exposure identified through environmental investigation, and the lead hazard control actions taken, along with relevant information allowing characterization of the lead hazards (e.g., age and condition of housing, renter or owner-occupied, source and pathway of exposure, etc.)
- CDC requires its grantees to provide data through its STELLAR database, but its data fields have proven to be limiting, especially for non-paint sources, and many grantees report their dissatisfaction with STELLAR. CDC should consider moving to an alternative software package with greater flexibility and easily available support. Until CDC revises its requirements, states should use standard office database software to keep these records.
- CDC should undertake or fund formal evaluations of state case management and environmental investigation programs. Programs should be given the tools and opportunity to meet goals and improve performance. However, if state or local programs are not able to achieve basic standards of performance in follow-up of lead-poisoned children, federal funding should be terminated.
- CDC should sponsor a system of peer evaluation for state and local lead programs. A peer evaluation program would allow state program staff to learn from and share with one another, reinforcing the replication of innovative and effective practices.

CHAPTER 2
INTRODUCTION

Over the past few years, policy and practice for screening children for lead-poisoning has dominated the dialogue about the health care system's role in lead poisoning prevention. In contrast, relatively little attention has been directed to how the public health system, state Medicaid programs, and health care providers respond to a lead-poisoned child, once identified. The Alliance To End Childhood Lead Poisoning and the National Center for Lead-Safe Housing believe that, in addition to improving dramatically the screening of children with risk factors for lead exposure, it is time to reexamine our response to lead-poisoned children and to make changes and improvements as needed. The Alliance and the National Center decided that characterizing the case management and environmental investigation services now being provided in response to the identification of a lead-poisoned child is a useful first step.

This report focuses specifically on two important functions in responding to a lead-poisoned child: case management and environmental investigation. However, it is important to understand their context in the larger system of lead poisoning prevention. As the following diagram makes clear, primary prevention is the first line of defense in protecting children from lead poisoning. Secondary prevention entails identifying the lead-poisoned child, providing follow-up care including medical management, environmental investigation, and case management, and then ensuring that any lead hazards identified are controlled to provide a lead-safe environment for the child.

Figure 2-1

<table>
<tr><th colspan="3">PRIMARY PREVENTION</th></tr>
<tr><td colspan="3"><i>Avoiding and Controlling Lead Hazards Before a Child Is Exposed</i></td></tr>
<tr><th colspan="3">SECONDARY PREVENTION</th></tr>
<tr><td>♦ Screening To Identify the Lead-Poisoned Child</td><td>♦ Medical Management
♦ Environmental Investigation
♦ Case Management</td><td>♦ Control Identified Hazards To Make Home Lead-Safe</td></tr>
</table>

The scope of this survey and report is limited to describing and evaluating the quality of self-reported state policies and practices for environmental investigation and case management. The most effective state programs are those that succeed at primary prevention. Once a child is exposed to lead, the overall effectiveness of the response must be judged by performance in all three areas of secondary prevention — and a single weak link in the chain of secondary prevention activities can undermine the effectiveness of the entire response. For example, having exemplary environmental investigation and case management services is useless if the state fails to screen children at risk for lead poisoning to identify those with elevated blood lead levels. Similarly, providing good environmental investigation and case management services is pointless if these activities do not trigger action to control identified lead hazards.

It is also important to be clear about what is meant by each key term. "Environmental investigation" means the examination of a child's living environment, usually the home, to determine the source or sources of lead exposure for a child with an elevated blood lead level. For the purposes of this report, "case management" means coordination, provision, and oversight of the services to the family necessary to ensure that lead-poisoned children achieve reductions in blood lead levels. In addition, case management includes coordination, but not provision and oversight, of clinical or environmental care.

This report provides "baseline" information on case management and environmental investigation services that has never before been collected and assembled in a comprehensive fashion on a state-by-state basis. We hope this report's documentation of services that are (and are not) being provided to lead-poisoned children will help sharpen discussion and decision-making at many levels. States can evaluate how their services compare with those in other jurisdictions and consider adopting other states' exemplary or creative program elements and financing mechanisms. This report may also help to inform policy and program decisions at the national level. This report is timely for at least four reasons.

First, lead screening of high-risk children can be expected to increase dramatically as a result of developments on two fronts. Recent reports from the General Accounting Office have documented low lead screening rates for the highest risk children enrolled in Medicaid, despite federal law requiring lead screening. GAO has found just 19% of Medicaid-enrolled children aged 1 through 5 being screened as required by law, while confirming that the majority of children requiring case management and environmental investigation are enrolled in Medicaid (at least 83% of children with blood lead levels above 20 μg/dL). As a consequence of these compelling statistics, considerable attention is being paid to improving lead screening rates among Medicaid children, with Congress, the Health Care Financing Administration, the Centers for Disease Control and Prevention, and several children's advocacy groups focused on achieving significant improvements. In addition, many states are developing state screening plans to identify and target the highest-risk children for lead screening, including but not limited to those enrolled in Medicaid. These state plans may help to increase the identification of lead-poisoned children across the country. Expanded screening of children with risk factors will naturally increase demand for case management and environmental investigation services. This report provides the information needed to ensure that those systems are "in good working order" to handle increased caseloads.

Second, this report should prove enlightening to those seeking to ensure that children enrolled in Medicaid managed care plans are provided with appropriate follow-up care. Many states are still developing or fine-tuning their mechanisms for overseeing and coordinating care with Medicaid managed care plans. This report raises a number of policy and program issues that should be considered as states seek to make the most of Medicaid managed care programs. Many of these lessons will also apply to state Children's Health Insurance Programs (CHIP), since insurance status does not dictate the appropriate response to a lead-poisoned child.

Third, there are a number of pending policy decisions that can be informed by the findings of this report. The Health Care Financing Administration has recently issued updated guidance on lead for the State Medicaid Manual restricting reimbursement for the environmental sampling and analysis that is needed for an adequate environmental investigation to identify the lead hazards in a poisoned child's home. This policy has been under criticism by the Alliance To End Childhood Lead Poisoning, the American Public Health Association, the Children's Environmental Health Network, the Centers for Disease Control and Prevention's Advisory Committee on Childhood Lead Poisoning Prevention, and other environmental and public health advocates. In addition, CDC's Advisory Committee on Childhood Lead Poisoning Prevention is currently reviewing the evidence base for case management services. Finally, U.S. Senators Robert Torricelli (D-NJ) and Jack Reed (D-RI) and U.S. Representative Robert Menendez (D-NJ) are introducing federal legislation to address these issues in Congress. This report can provide factual information to inform these debates.

Fourth, the sharp decline in the number of children with elevated blood lead levels documented by NHANES III, Phase 2 offers opportunities never before available for using screening and follow up measures to advance prevention. For the first time, the caseload of lead-poisoned children in jurisdictions historically overwhelmed by the number lead-poisoned children has become "manageable." We have a responsibility to respond promptly and humanely to children with elevated blood lead levels as well as the opportunity to use these interventions to advance prevention. Childhood lead poisoning is entirely preventable. But achieving this goal requires us to sharpen our tools and redouble prevention efforts, rather than being complacent or uncritically following "established procedures." by rote.

CHAPTER 3

BACKGROUND ON LEAD SCREENING & TREATMENT

Background on Lead Poisoning

Lead is a heavy metal that has been used in many materials and products. When absorbed into the body, it is highly toxic to many organs and systems. Lead is most harmful to young children because it is easily absorbed into their growing bodies and interferes with the developing brain and nervous system at low doses. At very high levels of lead exposure, which are now very rare in the U.S., lead poisoning can cause mental retardation, coma, convulsions, and even death. Most commonly in the U.S., children are poisoned through chronic, low-level exposure to lead. Low-level lead exposure can cause reduced IQ and attention span, hyperactivity, impaired growth, reading and learning disabilities, hearing loss, and other behavior problems. Since 1991, the Centers for Disease Control and Prevention has described 10 micrograms of lead per deciliter of blood (μg/dL) as the "level of concern" because scientists studying large populations have observed adverse health effects in groups of children with blood lead elevations at this level. CDC's designated level of concern was affirmed by the National Academy of Sciences in its 1993 report, which also described adverse health effects at even lower blood lead levels.

Regulations limiting lead use in paint, gasoline, food cans, and other consumer products have resulted in tremendous progress in reducing lead exposure of both children and adults in the U.S. over the past 20 years. However, significant amounts of lead remain in our environment from earlier uses —primarily lead-based paint in older homes, which can pose serious health hazards without proper maintenance or care. Most often, young children are poisoned in their own home by dust from peeling or deteriorated lead-based paint. Lead dust settles on surfaces, gets on children's hands and toys, and is ingested through normal hand-to-mouth activity. Lead-contaminated soil also adds to some children's exposures, either through outdoor exposure or soil being "tracked in" to the house. Today, lead poisoning remains a significant problem in the U.S., affecting an estimated 890,000 preschoolers (about 4.4% of children aged 1 through 5), according to the Centers for Disease Control and Prevention.

The Goal of Lead-Safe Housing

Most lead-poisoned children are exposed to lead in the own homes, usually by ingesting lead dust, the most frequent source of which is lead-based paint. While two-thirds of the entire U.S. housing stock contains some lead-based paint, the mere presence of lead-based paint is not a health hazard to children. Children are typically exposed to lead dust through two scenarios: peeling paint associated with poor property maintenance is by far the more dominant scenario; remodeling and repainting projects that disturb or repair leaded paint using unsafe practices can also create lead dust hazards.

While some local health department programs continue to rely on the XRF to measure the lead content on painted surfaces, programs in many states are increasingly focused on keeping paint intact and on controlling lead dust hazards. Research has shown paint condition and lead dust levels to be stronger predictors of risk than the paint's lead content and highlighted the importance of lead-contaminated dust and the need for more protective lead dust standards. Because lead-contaminated dust can be invisible to the naked eye, lead dust wipe tests are vital to identify lead-contaminated dust hazards. In recent years, attention has focused in particular on the need for "clearance" (i.e., post-activity wipe tests to check for dust lead hazards and visual inspection to confirm that paint is intact) after work that repairs or disrupts lead-based paint. Clearance testing is particularly important to confirm that a hazard is not left behind after corrective action is taken in the home of a child at known risk for lead poisoning.

Identifying and Treating Lead Poisoning

At the most common levels of exposure, lead poisoning may not present identifiable symptoms, making blood lead testing the only way to confirm exposure. Thus, screening for lead poisoning is essential to ensure that poisoned children are identified for medical treatment and follow-up, especially the steps needed to identify and reduce further exposure to lead.

Lead screening is vitally important for two additional reasons. First, experience shows that documenting the nature and extent of the problem is essential to building the political will for primary prevention of lead poisoning (initiatives to control lead hazards before children are exposed). Second, screening helps to document high-risk neighborhoods and "hot spots" for public health attention and targeted prevention measures.

Unlike many health conditions, treatment of lead poisoning is not a purely medical response. Physicians, much to their frustration, can not just "write a prescription" to solve the problem. Instead, effective management of a lead-poisoned child is a complex process that typically requires an interdisciplinary response of medical, environmental, nursing, public health, and social service functions to reduce the child's exposure to lead and achieve the best long-term outcome for the child.

CDC Lead Screening and Treatment Recommendations

Current recommendations of the Centers for Disease Control and Prevention (CDC) on screening young children for lead poisoning are contained in a November 1997 document called *Screening Young Children for Lead Poisoning: Guidance for State and Local Public Health Officials.* This guidance observes that lead exposure is highly variable around the country, with some children at considerable risk and others at very low risk. Consequently, CDC recommends that state and local health departments assess local data on lead risks and develop lead screening recommendations ("state screening plans") focusing on one- and two-year old children for use by health care providers in their jurisdictions. In some places, it is appropriate to screen all children ("universal screening"). In other places, it is appropriate to screen some children based on specific risk factors ("targeted screening").

CDC's document provides detailed guidance for state and local health departments in developing their state lead screening plans, including advice on assessing lead risks, engaging affected constituents in the process of developing recommendations, and communicating the screening recommendations clearly. Three subgroups were identified for particular focus by states due to their generally increased risk:

1. Children living in geographic areas with a high concentration of old housing;
2. Children receiving services from public assistance programs for the poor, such as Medicaid and WIC; and,
3. Children with individual risk factors identified through a questionnaire.

The scope of CDC's 1997 Guidance was limited to screening policy, thus it did not provide explicit detailed advice on managing lead-poisoned children, short of including a table summarizing for health care providers the blood lead levels at which various general types of follow-up activities would be appropriate. This guidance reiterates CDC's earlier position that both case management and environmental investigation should be provided at blood lead levels at or above 20 µg/dL or persistent levels in the 15 - 19 µg/dL range. Data from the second phase of CDC's NHANES III survey (published in 1997) yielded estimates of 70,000 children with blood lead levels at or above 20 µg/dL and 270,000 children with blood lead levels at or above 15 µg/dL.

Recommendations of the American Academy of Pediatrics

For most pediatricians, the statements of the American Academy of Pediatrics (AAP) play an important role in guiding their behavior. AAP has issued periodic guidance on lead poisoning, with the most recent statement published in June 1998. The current AAP statement, which is generally consistent with CDC's current recommendations, advises pediatricians to participate in the process of developing local screening policy and to screen young children based on health department recommendations. The AAP statement also provides general guidance on treating children with elevated blood lead levels.

State Lead Screening Policies

Some states have enacted laws requiring lead screening for all young children or for identified subgroups of children. Other states have no requirements for lead screening (outside of the federal requirement of the Medicaid program), leaving it up to the discretion of health care providers. Many states are currently in the midst of a process to develop state screening plans as recommended by CDC, however, such action is optional since CDC's screening recommendations are not binding. In sharp contrast, Medicaid's requirements are mandatory and enforceable. Thus, it is important to recognize that current Medicaid policy prohibits adoption of a state lead screening policy that does not include lead screening for all Medicaid-eligible children.

Medicaid Policy on Lead Screening and Treatment

The Medicaid program plays a significant role in financing identification and treatment of children with lead poisoning. Medicaid is a federal-state partnership that provides health care to eligible poor and disabled persons. State expenditures for Medicaid are "matched" by the federal government on the basis of a predetermined matching rate. Because of expansions in eligibility in recent years, Medicaid now covers millions of poor children – about one-third of young children (33% of all infants and 29% of children aged 1 through 5). Medicaid is particularly important in lead poisoning screening and treatment because of the coincidence of poverty and lead poisoning nationwide. The General Accounting Office (GAO) has estimated that 60% of all children aged 1 through 5 with blood lead levels at or above 10 µg/dL and at least 83% of those children with blood lead levels above 19 µg/dL are covered by Medicaid.

Because Medicaid is a federal-state program, states generally have broad discretion in administering their programs. However, Federal law specifically requires lead screening "as appropriate for age and risk factors" for all children enrolled in Medicaid. Technically, the screening provision is part of the mandatory package of preventive health services for children enrolled in Medicaid called "Early and Periodic Screening, Diagnostic and Treatment Services" (or EPSDT). Medicaid requires that all enrolled children receive a screening blood lead test at 12 months and 24 months of age. Children between the ages of 36 months and 72 months of age must receive a screening blood lead test if they have not been previously screened for lead poisoning. (Source: State Medicaid Manual, Section 5123.2, Screening Service Content.—Part D, Appropriate Laboratory Tests, Health Care Financing Administration, Transmittal No. 12, September 1998).

At present, the State Medicaid Manual indicates that states may provide reimbursement for case management and environmental investigation services for lead-poisoned children enrolled in Medicaid, but does not explicitly require it. As this report documents, many states have not done so, in the belief that such coverage is optional. However, Medicaid law requires states to cover treatment and other medical assistance necessary to correct or ameliorate conditions identified through EPSDT screening tests. This apparent "option" in the State Medicaid Manual and states' failure to cover this service is thus in direct conflict with federal Medicaid law. The GAO has recently recommended to Congress that HCFA address this problem by clarifying "in regulation or Medicaid policy the expectation that, in line with CDC recommendations, all state Medicaid EPSDT programs include reimbursements for investigations to determine the source of lead exposure and case management services for children identified with elevated blood lead levels." (U.S. General Accounting Office, Lead Poisoning: Federal Health Care Programs are Not Effectively Reaching At-Risk Children, GAO/HEHS-99-18, January 1999, p. 64).

CDC Funding for Lead Poisoning

Federal funding for lead poisoning prevention in general, and for case management and environmental investigation in particular, is quite limited. The only federal grant funds that are specifically intended to support (at least in part) lead screening and follow-up care are grants from the Centers for Disease Control and Prevention to state and local health departments. CDC currently awards two different types of lead poisoning grants through a competitive awards process. Most of CDC's grant funding supports Childhood Lead Poisoning Prevention (CLPP) programs located in health departments in 31 states. Smaller grants support the development of state surveillance programs for blood lead screening data in 10 states. For many years, CDC's grantees have been expected to coordinate with State Medicaid programs so that grant funds would not be used in place of available Medicaid funds for treatment.

In recent years, a major focus of the CLPP grant program has been assisting local lead programs adjust to changes in the public health landscape triggered by the emergence of managed care as a primary health care system. One effect of this shift has been that many health departments have been forced to change their role from a provider of health care services to an oversight function, assuring that others provide necessary services.

CHAPTER 4
SURVEY METHODOLOGY AND LIMITATIONS

In the fall of 1998, the National Center for Lead-Safe Housing and the Alliance To End Childhood Lead Poisoning developed and mailed a survey to determine the status of case management and environmental investigation activities for lead-poisoned children. The purpose of the survey was to understand and document the types and quality of care being provided to lead-poisoned children, and to identify program and policy factors hampering these efforts.

Characterizing and assessing case management and environmental investigation services proved to be a complex, multi-stage task. In August and September of 1998, surveys were sent to the 50 states and the District of Columbia. Surveys were also sent to 17 selected local jurisdictions that had childhood lead poisoning prevention grants from the Centers for Disease Control and Prevention (CDC) or were known to have serious lead poisoning problems. The initial survey responses prompted us to make follow-up phone calls to many programs to clarify the information. We also followed-up with a supplementary survey in December 1998 to clarify particular items. We received an excellent response: all states and the District of Columbia ultimately responded. (Throughout this report, we treat the District of Columbia as the "51" state.") In addition, 15 of the 17 selected local programs responded, allowing us to better characterize certain elements of state programs.

Limitations of the Findings

It is important to note that this report is based upon self-reports of program policies and practices. For the most part, we were not able to assess how the programs actually perform with respect to their states policies and practices. In addition, the detail and accuracy of the survey responses limit the survey results. In some cases, respondents were extraordinarily diligent in providing complete responses and submitting supplementary explanatory material. In other cases, respondents provided less detail and left some items unanswered. Where contradictions were evident or the information was too confusing to interpret, we made follow-up phone calls to program staff. But clarification was not possible in every case.

Another possible complicating factor is the terminology central to report. As noted herein, there is presently considerable confusion about what "case management" for lead-poisoned children means and whose responsibility it should be. To the extent that survey respondents were operating in a different frame of reference, the accuracy of their responses may have been affected.

In addition, the landscape in which these programs are operating is changing rapidly. States are continuing to enroll more Medicaid beneficiaries into managed care plans. Also, since the survey was initially administered, many states have come under EPA requirements for certification of lead-hazard evaluation and abatement. Thus, it is important to recognize that this report represents a snapshot in time.

Finally, and perhaps most importantly, organizing this report at the state level obscures the reality that in many places these services are designed, delivered, and, in some cases, funded at the local level. On some issues, states have oversight responsibilities or state policies are controlling (e.g., Medicaid reimbursement policies). But in other cases, policies and practices are generated from the "bottom up." State results (especially data on services provided directly) must thus be taken with a grain of salt, as some state programs are effectively once removed from "where the rubber meets the road."

CHAPTER 5
STATE RESPONSES ABOUT LANDSCAPE ISSUES

In order to understand the landscape in which case management and environmental investigation policies are being developed and services being provided, we inquired about some key issues. Survey respondents were asked about the current status of Medicaid managed care in their states and how environmental investigation and case management are being handled in that context. They were also asked about current laws affecting lead programs, specifically laws on lead screening and treatment and on licensing or certification for the lead hazard evaluation and control industry.

Status of Medicaid Managed Care

Thirty-eight states indicated that at least some Medicaid children have already been enrolled into managed care organizations. 3 respondents did not know, 5 said none were enrolled, and 5 states did not respond. When asked what percentage of Medicaid children are currently in managed care, only 13 states responded. These responses (which included some estimates) ranged from 12% to 100%. These responses are consistent with other studies that have looked at the expansion of Medicaid managed care, which have found that as of early 1997 least 42 states had some contracts in place. However, not all children in all these states were enrolled in these plans. As of early 1997, about 42% of children under age 6 were in Medicaid managed care (S. Rosenbaum et al, *Negotiating the New Health System: A Nationwide Study of Medicaid Managed Care Contracts*, Center for Health Policy Research, The George Washington University Medical Center, Second Edition, 1998).

Medicaid Managed Care and Lead Screening and Treatment

States were asked whether the state Medicaid contract with the managed care organization(s) provide specifications for lead screening or follow-up services. 24 of the 38 states with Medicaid managed care indicated that there was such contract language. However, little detail was provided on the language. 7 states indicated that the contract referenced EPSDT requirements or protocols, and 4 states reported that the language dealt only with screening (not follow-up or treatment).

These findings are consistent with a much more detailed study in this area, *Medicaid Managed Care Contracting for Childhood Lead Poisoning Prevention Services*, by Elizabeth Wehr, J.D. and Sara Rosenbaum, J.D., Center for Health Policy Research, The George Washington University Medical Center, September 1998. Wehr and Rosenbaum found that 20 of 42 state contracts in effect at the beginning of 1997 contain some language addressing MCO duties relating to lead-related care. Most of these dealt with screening, but very few addressed the duty to provide or arrange for the "regimen of medical and environmental services without which children's elevated blood lead level cannot effectively be reduced" (Wehr and Rosenbaum, p.6). The authors go on to explain that the fact that the contracts do not specifically address follow-up medical services does not mean that they would not be furnished. However, they caution that "Contract silence, however, confers discretion on the MCO and its providers to determine what will be done following discovery of an EBLL in an enrolled child" (Wehr and Rosenbaum, p. 6).

For Medicaid children enrolled in managed care plans, states were asked how environmental investigations are paid for. Of the 33 states that responded to this question, 15 indicated that environmental investigation is "carved out" of the Medicaid managed care contract, usually with the Medicaid agency billed on a fee-for-service basis by the public health agency. 13 states indicated that service is funded by the program providing the service, at no charge or without reimbursement. 2 states were still negotiating an arrangement. 1 state had multiple contracts, which varied in their approach. 1 state reimbursed environmental investigation as part of social workers' reimbursement. 1 state reported that environmental investigation is included in the captitated rate paid to Medicaid managed care organizations, but that actual reimbursement by MCOs is negligible, if any.

State Laws

19 states reported having laws on the books affecting lead screening or treatment. 13 laws actually address lead screening. (These laws did not necessarily require screening of all children. For example, Iowa incorporates federal Medicaid requirements into state law.) 3 states reported having laws addressing only reporting requirements for EBLs. 1 state law requires that all blood lead analyses for children under age 6 be done by the state lab. Just 1 state reported having a state law addressing environmental follow-up but not lead screening.

33 states reported having laws on licensing or certification for the lead hazard evaluation and control industry. 3 states indicated that such requirements were about to take effect (although it wasn't clear if this was due to state legislation or implementation of a program in the state by EPA). 10 states reported that they did not have such laws, and 5 did not respond.

CHAPTER 6

ANALYSIS OF STATE RESPONSES ON CASE MANAGEMENT

This chapter presents the analysis of survey responses on issues related to case management, including blood lead levels at which case management is provided, providers and types of services provided, and sources of funding for these services. It also includes information about "unmet needs" in case management as reported by state respondents. Information from the initial and the follow-up survey have been consolidated for maximum clarity.

For the purposes of this report, "case management" means coordination, provision, and oversight of the services to the family necessary to ensure that lead-poisoned children achieve reductions in blood lead levels. In addition, case management includes coordination, but not provision and oversight, of the clinical or environmental care. Thus, it does not include either environmental investigation (to determine the source of lead exposure) or medical management (clinical evaluation, follow-up testing, chelation, etc.). Case management typically involves ongoing communication and problem-solving with the family and other service providers to ensure that satisfactory progress is being made. It does not mean simply referral to other service providers, telephone contact, and other minimal activities that are not potentially directly reimbursable.

I. INITIATING SERVICES

Blood Lead Level Trigger for Case Management

48 state programs (94%) indicated that they provided case management for children with blood lead levels (BLL) of 20 μg/dL and above. 34 states (67%) indicated that they provide case management at a BLL of 15 and above and 11 states (22%) also provided services at a BLL of 10 and above; see Table 6-1. One state program (South Dakota) did not provide a response to this question. Two state programs provide no case management.

The 23 programs that cited a BLL trigger of 15 μg/dL used a variety of criteria to qualify a child for case management; see Table 6-2. The current CDC recommendation is for case management to be provided at blood lead levels of 20 μg/dL or persistent levels above 15 μg/dL (defined as two venous tests at least 3 months apart).

Table 6-1 Blood Lead Level Triggers for Case Management

Blood Lead Level	# of States	% of States	Cumulative %
10	11	22	22
15	23	45	67
20	14	28	94
No case management	2	4	98
No response	1	2	100
TOTAL	51	100.0	

Table 6-2 Detailed Descriptions of Blood Lead Level Triggers from 15 - 19 µg/dL

Blood lead criterion	# states	States
15 µg/dL	12	Colorado, District of Columbia, Illinois, Minnesota, Missouri, New Hampshire, New Mexico, New York, Ohio, Tennessee, Washington, Wyoming
Venous 15 µg/dL	3	Alabama, Georgia, West Virginia
Persistent 15-19 µg/dL	3	Arizona*, Mississippi, Wisconsin
2 BLLs 15-19 µg/dL	1	Delaware
2 BLLs 15-19 µg/dL at least 30 days apart	1	California
2 BLLs 15-19 µg/dL at least 3 months apart	1	Maryland
confirmed 15-19 µg/dL	2	Nebraska, Vermont

* Arizona also indicated that it would provide case management to "clusters ≥ 10 µg/dL."

Reporting of Elevated Blood Lead Levels and Case Referrals

Central reporting of elevated blood lead levels is critical to ensuring timely follow-up care for lead-poisoned children, as this is the principal manner in which health departments are informed of children needing case management services. Central reporting is also essential for states to ensure proper follow-up where services are provided at the local level. However, maintaining a reporting system is a complex task, requiring computer hardware and software, technical expertise, and good relationships with reporting entities, primarily blood lead laboratories.

In our survey, 47 states indicated that they had a system for reporting elevated blood lead levels. However, in 10 states the reporting systems were not fully operational for reporting elevated blood leads to the state and local health department, as judged by either the state program or by a local program within that state also participating in this survey. (These ten states were AR, CA, FL, KY, LA, MI, PA, SD, VA, and WI.) Four states indicated that they did not yet have a reporting system (HI, IN, MT, and NV). Despite the presence of a central blood lead reporting system, 8 of the 47 states indicated case referrals came via a variety of other routes including private physician reporting and local health department reporting. Two state programs did not provide a response.

II. SETTING STANDARDS FOR SERVICES

Entities Performing Case Management

All 51 programs responded to this question. Although health department staffs (state and local) are the most common providers of case management services (46 states), these services are now also provided by a variety of other public and private sector providers (see Table 6-3). In 25 states, case management services are provided exclusively by local and state health department staff. But in 21 other states, where the health department staffs provide some of the services, there is at least one other type of provider delivering case management services. In 11 states, case management is provided privately under contract to the local or state health department. In 10 states, case management services are now being provided privately

Table 6-3 Entities Performing Case Management

State Service Provider Type	# States	Percent
PUBLIC - Health Department ONLY	25	49
PUBLIC - Other ONLY	2	4
PUBLIC - Health Department & Other	2	4
MIXED - Health Department & Managed Care	8	16
MIXED - Health Department & HD Contract	8	16
MIXED - Health Department & Other & HD Contract	2	4
MIXED - Health Department & Managed Care & HD Contract	1	2
Managed Care ONLY	1	1
No Case Management	2	4

by managed care organizations. In 6 states, other state departments provide case management services. This complexity means that state and local programs often do not directly control the delivery of at least some services and must coordinate with both public and private sector providers to ensure that appropriate services are provided to lead poisoned children. Two states indicated they did not provide case management (Idaho and Nevada).

Role of the Health Department when Case Management is Provided by Others

The 24 states in which at least some case management is provided by others were asked what role the health department played when it is not the direct provider of services. These states indicated that the majority of state programs still assume at least 4 of the roles listed in Table 6-4 (median number of roles assumed per state was 5, mean = 4.4).

Table 6-4 Health Department Role When Case Management Provided Elsewhere

Health Department Role	# States	% States Where CM Done By Others
Monitoring and oversight, including surveillance and tracking	12	52
Provision of educational materials	18	78
Environmental assessment	14	61
Consultation and technical assistance	14	61
Education of health providers, groups including MDs, RNs, and other	15	65
Work with physicians	10	44
Provision of direct services, if problems	10	44
Assistance with referrals	3	13
Other	6	26

Qualifications for Those Providing Case Management

The vast majority of states providing case management services (46 of 49 programs or 90%) utilize professionals to provide case management, supporting the concept that case management is a professional service. Six of these programs also use non-professionals to carry out case management activities. Two programs use non-professionals exclusively to carry out case management. One state program did not provide a response to this question. Two states do not provide case management services.

17 state programs, about one third of those providing case management services, indicated that they required case managers to meet other qualifications; see Table 6-5. 12 of these 17 programs specifically required nursing personnel, 8 required training, 2 required social workers, and 1 indicated that the qualifications varied in their state by county. 5 state programs did not provide a response to this question. 2 programs provide no case management services.

Table 6-5 Qualifications for Those Providing Case Management

Qualification	States	Notes
PHN or BSN	AR, CA, NJ, NC, MN, OH, TX, WI	
RN w/ public health experience	MA	
RN	LA	
Social worker	NM, TX	TX requires BS or BA
Training	AL, FL, NC, NM, NY, PA, TN, TX	AL - medical and psycho-social issues NM - lead sources TN - technical and public information TX - 8 hour course
Varies (by county)	WA	

Written Protocol

29 state programs (57%) indicated that they had a written state protocol for case management. 14 of the 29 programs provided a copy of their protocol to us. Although we did not critique the protocols, they vary considerably. Some states provide a bare-bones outline of follow-up expected, while others provide an extensive protocol including standards for providing care. Several states have adopted standards consistent with the draft document *Case Management for Childhood Lead Poisoning*, a consensus standard currently undergoing final revisions (see p. 104).

Typical Case Management Services

The vast majority of state programs indicated that their case managers conducted several different kinds of follow-up activities and visits; see Table 6-6. These include visits to the child's home, telephone conferences with the health care provider, and telephone follow-up with family. Other types of case management services included visits in the clinic or office and mailing brochures to children with blood lead levels below the trigger for case management.

Table 6-6 Typical Case Management Services

Type of Service	# of States	% of States
Visits to the child's home	43	84
Telephone conference - health care provider	37	73
Telephone follow-up with family	43	84
Other services	12	24

Case Assessment

While the assessment of case conditions is not uniform for the 49 programs that say they provide case management services, there is a core set of factors that are assessed by the majority of states (see Table 6-7). The vast majority assesses conditions in the home visually, assess exposures by history, and assess the family's understanding of the problem. Although the WIC program would likely provide excellent nutritional benefits to children with elevated blood lead levels, only 36 states (71%) report that they systematically assess children's WIC status.

A surprising 53% of programs say that their assessment includes dust wipe testing although we were unable to confirm from the survey responses whether the dust wipe testing done as a part of case management assessment was a completely separate test from that done as part of environmental investigation.

Table 6-7 Case Assessment

Type of Assessment	# of States	% of States
Visual conditions	42	82
History	48	94
Family's understanding of the problem	47	92
WIC status	36	71
Access to other resources	34	67
Dust wipe testing	27	53
Other factors	16	31

Development of an Individualized Case Management Plan

A major element in the case management process is the development of a plan of service for each individual family. Only 23 state programs (45%), under half of all programs providing case management services, indicated that they prepared a formal plan for case management services. 4 programs did not answer this question.

Family Involvement

32 state programs (63%) indicated that they systematically involve the family in the lead case management planning process. While some improvement is needed here, this indicates that the majority of programs consider the family to be a key player in this process. 6 programs did not answer this question.

Interventions

As in the assessment area, state programs vary widely in the typical interventions provided as part of their lead case management. Interventions include education, counseling, referrals, cleaning, and other activities, as described in Table 6-8.

Table 6-8 Types of Common Case Management Interventions

Intervention	# of States	% of States
Education about lead and lead exposure risks	49	96
Education about lead-specific cleaning practices	48	94
Nutritional counseling	48	94
Referrals	34	67
Cleaning demonstration	19	37
Cleaning of dwelling unit	11	22
Move to lead-safe housing	20	39
Abatement and temporary relocation	17	33
Follow-up of identified problems	41	80
Other (not specified)	7	14

Education

All 49 states providing case management services include educational interventions. The survey assessed three types of educational interventions: education focused on lead and lead exposure risks (100% of the 49 states providing case management services), lead-specific cleaning practices (48 states) and nutritional counseling (48 states).

Referrals

Two-thirds of all state programs report that case managers typically make referrals as a part of case management. Most programs make referrals to multiple agencies and the types of referrals vary considerably (Table 6-9). Not surprisingly, 18 programs say they refer children for medical services, including both referrals to health care providers and the Medicaid program. 14 state programs say that they typically refer children for WIC. 9 state programs say that case managers make referrals for housing needs to a variety of housing programs, including local housing authorities, the HUD lead abatement program, and a lead safe housing treatment center. One state makes referrals for emergency housing (Alabama) and another for temporary housing (Delaware). Of particular interest are the 6 state programs that typically refer children to Early Intervention pro-

Table 6-9 Types of Referrals Made as Part of Case Management

Referral Type	# of States	State Programs
Medical services	18	
WIC	14	GA, NY, MA, IL, RI, NH, ME, NC, MI, WI, DE, IA, AZ, MS
Early Intervention	6	DE, IO, NH, MA, RI, SC
Developmental assessment	6	AZ, ME, MS, NM, TN, VA
Housing services	9	AL, MD, CT, NY, MA, AR, RI, DE, AZ
Social services	8	CA, MA, MD, TN, VA, WI, LA, WV
Head Start	4	SC, NY, MA, ME
Other nutrition services	4	CA, MD, RI, TN
Other health services	2	NY, MS
Parent support group	1	NH
HEPA vacuum	1	CO

grams, which provide developmental assessments and also intervention and treatment if needed. Referrals for developmental assessments are made by 6 other state programs, one (TN) focusing on referrals for 4 year olds who would not be eligible for Early Intervention.

Social services include referrals for emergency child care, employment programs, foster care, special needs home visits, and transportation. Referrals for other health care services include hospital, mental health, speech therapy, and physical therapy. Referrals for other nutritional services include food and food stamps. Only one program reported referring families to parent support groups, even though such groups are found in a number of states. One program makes referrals for HEPA vacuuming, evidently as an emergency interim control measure.

Specialized Cleaning

Eleven states report that their case management services included specialized cleaning of the dwelling unit for lead dust removal, although most have limits on the conditions under which such services are provided. Eight state programs provided additional information about when cleaning was done, as noted in Table 6-10.

Table 6-10 Conditions for Providing Specialized Cleaning

States	Restrictions on cleaning services
Massachusetts	As needed
Michigan & Ohio	Pilot program done in one jurisdiction only
North Dakota	When services needed and no one else available
New Hampshire	In designated catchment area and service need documented and parents accept services
South Carolina	If child hospitalized and family needs help
Tennessee	Serious environmental conditions or low function adults
Rhode Island	If parents unable to do wet cleaning and covering

Housing Interventions

20 state programs indicated that they typically refer children to lead-safe housing, a process that often includes coordination with property owners as well as social service agencies. 17 programs indicated their case management referrals typically included abatement and temporary relocation. Of these 17 programs, 12 provided informa-

tion on how long the abatement or temporary relocation takes (Table 6-11). Only 3 programs indicated that it took them two weeks or less to do this.

Table 6-11 Length of Time for Abatement/Temporary Relocation

Length of Time	# of States	States
≤ 14 days	3	MI, ND, RI
2 to 3 months	5	CT, IA, NC, WI, VA
Varies	4	KY, MA, MD, NJ
Don't know	5	CA, MN, MT, OH, PA

Follow-up of Identified Problems

41 programs report that their case management services include follow-up of identified problems. Many families with lead poisoned children are very high risk and have multiple problems including lack of financial resources, limited support systems, acute and chronic medical problems, large unpaid utility bills, lack of food, and other basic problems related to day-to-day survival. The existence of these other problems may result in the family not paying attention to managing the lead problem. Case managers often help the family find solutions to the most pressing problems before or at the same time as they help the family find solutions to the identified lead problem. However, follow-up of identified problems takes time to achieve results and can be resource-intensive and open-ended. Thus, staffing and reimbursement for such services must reflect the level of services being provided.

Documentation of Interventions Completed

41 state programs (80%) indicated that they routinely document the interventions performed as part of case management, indicating that that documentation of services is common practice for the 49 programs providing case management services. 3 programs did not answer this question.

However, when asked if they documented the date that specific interventions were performed in their case management records, only 33 state programs (65%) indicated that they did. 4 programs indicated that they did not record such documentation and 12 programs did not answer this question. 2 programs provide no case management.

Case Closure

The existence of case closure criteria is an indication that a program has a sense of its limitations in providing follow-up services and achieving results. Thus, states were asked whether they had specific criteria for closing a case, and 37 programs replied affirmatively. However, the lack of national standards for case closure, as in other areas of case management, has created enormous variation in practice. Some programs continue to provide services until the child is 6 years of age. Others will close the case only after blood lead levels are down and environmental intervention has been completed.

At present, the criteria for state programs are remarkably different and very close to being unique. 15 programs indicated that their case closure policy was based on blood level alone. (See Table 6-12.) 19 state programs indicated that they had multiple criteria for closing out a case, including unique combinations of blood lead level, completion of an environmental intervention, loss to follow-up, family move, and education completed. Specific criteria listed as part of closure requirements for the states with multiple criteria are listed in Table 6-13.

Three states used other criteria, including case reviews done every 90 days and determination of the pediatric medical consultant. 2 programs indicated that they "follow CDC guidelines."

Table 6-12 Case Closure Criteria Based Solely on Blood Lead Level

Blood Lead Only Case Closure Criteria	# States
2 BLL < 10 µg/dL	5
3 BLLs < 10	1
BLLs < 10	3
2 BLLs < 10 or 3 BLLs < 15	1
2 BLLs < 15	2
3 BLLs < 15	1
BLL < 15	1
Reduction in BLL	1

Table 6-13 Case Closure Based on Multiple Criteria

Multiple Criteria	# States
Includes environmental intervention	8
Includes BLL	17
2 BLLs < 10	4
2 BLLs < 10 or 3 BLLs < 15	3
BLL < 10	3
2 BLL 10-14	1
BLL < 15	5
BLL < 20	2
Includes loss to follow-up	7
Other criteria:	9
Family moves	8
Family request	3
Child's Age > 6	5
Child's Age > 75 months	1
Child's Age > 3	1
Education complete	1
With medical approval	2
Under medical supervision	1
Chelation complete	1
Case manager's discretion	1
No activity (for 1 or 2 yrs)	2

III. FINANCING SERVICES

Over the past ten years, there has been a sea change in the organization and financing of public health and medical care services as managed care has become a predominant type of health care service delivery and financing. One outcome of this shift has been a decrease in the number of local public health departments providing direct patient care. Consequently, there are fewer state and local public health resources available to support case management services to individuals than had been available in the past. Since about 1993, CDC has encouraged state lead programs to assess the changing landscape and determine how they could best position themselves to ensure that case management would continue to be provided to lead-poisoned children. Lead programs were encouraged to think about becoming providers for managed care organizations or about contracting for case management services from other providers. Programs were encouraged to integrate case management for childhood lead poisoning into existing maternal and child health programs and Medicaid's EPSDT program. Programs were also encouraged to secure third party reimbursement for both case management services and environmental investigation, where possible, so that they could ensure funding for providing needed services. And, because the majority of children with elevated blood lead levels who need case management services are Medicaid-eligible, state lead programs were encouraged to work closely with their state Medicaid administrations to secure coverage.

Primary Reported Sources of Funding for Case Management

When asked to indicate the primary source of funding for their case management activities, 23 states reported relying primarily on federal funds, 12 states rely primarily on state funds, and 4 states on Medicaid. (See Table 6-14.) 6 states reported a combination of sources. Even in states with Medicaid reimbursement, Medicaid provides only part of the support for case management.

Table 6-14 Primary Reported Sources of Funding for Case Management

Primary Source of Funding	# of States	% of States
Federal	23	45
Medicaid	4	8
State	12	24
Combination (3 federal and state, 1 Medicaid and federal, 1 Medicaid and state, 1 used all three)	6	12
No response	4	8
No case management	2	4

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Table 6-15 Medicaid Reimbursement for Case Management

State	CDC Grantee	Grantee Type	Initial Visit	Follow-up Visit	Limits to Visits
Alabama	Y	CLPP	$36/hr	$36/hr	No
California	Y	CLPP	Varies	Varies	No
Colorado	Y	SURV	-	-	Yes - 2 visits
Florida	Y	SURV	-	No response	No response
Iowa	Y	CLPP	Varies	Varies	Yes - prescribed by MD
Maryland	Y	CLPP	-	-	No
Massachusetts	Y	CLPP	-	-	Yes - determined on case by case basis
Maine	Y	CLPP	-	-	No
Michigan	Y	CLPP	$70/visit	$70/visit	Yes - 2 visits
Minnesota	Y	CLPP	-	-	Does not know
Missouri	Y	CLPP	$50/visit	$50/visit	No
North Dakota	N		-	-	No
New York	Y	CLPP	Varies	Varies	Yes - varies case by case
Pennsylvania	Y	CLPP	$30/hr	$30/hr	No
Rhode Island	Y	CLPP	$200 to open case	$185/month	No
South Carolina	Y	CLPP	$60/hr	$60/hr	No response
Tennessee	N		$54/hr	$54/hr	Prior authorization from PCP in MCO
Texas	Y	SURV	$55/hr	$55/hr	5 visits with prior authorization needed for additional visits
Vermont	Y	CLPP	-	-	NA - program only makes one visit
Wisconsin	Y	CLPP	$25/visit	No	1 nursing education visit only

"-" means state reports that visit is reimbursed but provided no information on cost.

Mechanism and Amounts for Medicaid Reimbursement for Case Management

According to state survey responses, 20 of 51 state programs (39%) have a mechanism in place for Medicaid reimbursement for case management (See Table 6-15). The level of reimbursement by state Medicaid programs varies widely, from $25/visit for one educational visit only to $1610+ for 8 months of follow-up with no cap on the number of visits. Five of the 20 states (Colorado, Maine, Pennsylvania, Tennessee and Vermont) indicated that they had not yet received any reimbursements from Medicaid at the time of our survey.

Although CDC has encouraged states applying or re-applying for federal CLPPP and Surveillance funds to secure Medicaid reimbursement for case management services, many state programs receiving CDC lead funding have yet to do so. 23 of the 31 states that do not yet have Medicaid reimbursement for case management receive grants from CDC (16 with CLPPP grants and 7 with Surveillance grants). Of the 20 programs that indicated that they do have a Medicaid reimbursement mechanism in place, 15 receive CLPPP funding from CDC, 3 receive CDC surveillance grants, and 2 receive no CDC funding (Tennessee and North Dakota).

Rhode Island has the most elaborate and innovative reimbursement structure for case management. Reimbursement includes $200 for the initial visit (fee to open a case), $185/month for intensive case management services (expected to last 4 months or more), $75/month for "maintenance" case management services (as long as needed), and $250 at time of case closure.

Number and type of visits covered by Medicaid

The number of visits covered by state Medicaid programs also varies widely. 8 states have no limits on the number of visits that could be reimbursed (Alabama, California, Maryland, Maine, Missouri, North Dakota, Pennsylvania, Rhode Island); 8 have limitations; and, 3 programs did not know whether there were limitations or not.

Although 20 states reported that Medicaid covers the initial case management visit, only 17 reported that follow-up visits are covered. The amount of reimbursement provided to programs for both the initial and the follow-up visits varies widely. One program (Alabama) indicated that Medicaid reimbursement was available for other visits, such as family education or home visit for non-compliance.

Non-Medicaid Reimbursement Mechanisms

Medicaid is the primary reimbursement mechanism for case management. However, 4 programs indicated that they received reimbursement for case management services provided to children enrolled in private health insurance plans (Maine, Massachusetts, Minnesota, and New York). Only 5 state programs (10%) indicated that they received reimbursement for case management services provided to children enrolled in state Children's Health Insurance Programs (California, Massachusetts, Michigan, Missouri, and South Carolina).

Service Variation by Insurance Status

Although all 49 state programs delivering case management services indicated that their services are available to all children regardless of health care insurance status, six states reported limitations on access to case management. One state had broader coverage for Medicaid-enrolled children than for privately insured. One state simply referred all children for environmental investigation. In another state, the health care provider handles case management, unless the provider requests the service. The policies of two states could not be confirmed.

In one state (Tennessee) case management services are essentially not available to children enrolled in Tenncare, the state's Medicaid Managed Care program, unless the child's primary care provider (PCP) is also a local health department. Although Tennessee provides case management services to children enrolled in Tenncare if the child's PCP issues a referral, the costs for case management services for a lead poisoned child are reimbursed directly by PCPs out of their capitation fees. Tennessee reports that to date no PCPs, except local health departments, have issued referrals for case management services.

Determination of Costs

Although CDC has encouraged states to determine how much it costs them to provide case management services, only 10 states indicated that they had made such a determination: California, Illinois, Iowa, New York, Pennsylvania, Rhode Island, Texas, Virginia, Vermont, Wisconsin, and West Virginia. Some states reported that they did not know how to determine their costs for providing services

IV. TRACKING AND EVALUATING SERVICES

Availability of Data on Case Management Services Provided

All programs were asked to indicate how many children were identified with BLLs ≥ 20 in calendar year 1997 and then to indicate how many of these children actually received case management services. Only 28 of 51 state programs were able to specify how many children actually received services. A number of programs indicated that "all" children did or that their program visited "all children." Other programs indicated a percentage or rough number, noting that they could not provide the specific number.

Outcome Evaluation

Evaluation of outcomes is important for program management. Programs need to be able to show that they are making a difference in measurable terms. Several key case management outcomes are typically tracked, including change in blood lead levels and return to the child health provider for follow-up. We were interested to see the extent to which programs also tracked the completion of emergency exposure reduction measures.

All 49 state programs providing case management services track children's blood lead levels. The majority of state programs (35) also track compliance as measured by the child's return to their health care provider for re-testing. A minority of state programs (13) evaluate the extent to which case management activities yield emergency exposure reduction measures, including cleaning. 8 state programs stated that they tracked other outcomes; see Table 6-16.

Table 6-16 Outcomes Tracked Beyond Blood Lead Levels

Other Outcome Measures	States
Compliance - environmental control or orders	MA, MD, CO, DE
Environmental follow-up complete	LA
Appropriateness/immediacy of response	MI
Receipt of education	RI
Type of chelation and medications Type of case management entity/agency Reasons for ending case management	MO

Review of Case Management Results

Although more than three-quarters of state programs providing case management indicated that someone other than the case manager evaluated the results of case management for individual cases, only 15 state programs indicated that a state level program manager provided the review; see Table 6-17. This indicates that for the majority of state programs, case management oversight is limited.

Measures of Success

Programs stated that they measured success in their case management programs in a variety of ways. 32 state programs stated that they measured success of case management by a decline in the

Table 6-17 Review of Case Management Results

Type of Reviewer	# of States	% of States
State Program Manager	15	29
Local Program Manager	11	22
Case Manager	12	24
MD - not public health	4	8
Multi-disciplinary team	7	14
Other	1	2
No answer	1	2

Table 6-18 Reported Measures of Success for Case Management

Measure of Success	# of States
Decline in BLL alone	20
Decline in BLL plus environmental remediation complete	8
Decline in BLL plus other criteria including: Family understanding of follow-up plan - 2 Family satisfaction - 1 Meeting case closure criteria - 1	4
Other including: Departmental efforts and service plan complete - 2 Evaluation of outcome measures - 2 Evaluation of health outcomes - 1 # of cases dropped from case management/quarter - 1	6

child's BLL, but 12 of these programs also cited additional criteria (Table 6-18). 6 programs cited criteria other than a decline in BLL. 6 programs said they had no measure of success or this was not applicable. 7 states did not answer this question.

Types of Program Evaluation Data Collected by States

Despite the importance placed on evaluating outcomes in public health, only 15 programs - less than one third (29%) of all states - tabulate or analyze the results of their case management work. (See Table 6-19.) Only two state programs indicated they track cost information for case management of individual children. However, 37 programs (73%) believe that they have data that could demonstrate the effectiveness of case management for lead poisoned children.

Table 6-19 Types of Program Evaluation Data Collected by States

Type of Program Data Available	# of States	% of States
Repeat BLL	38	75
Systematic documentation of case management interventions	33	65
Outcome information for referrals	21	41
Cost information	3	6

Obstacles to Providing Case Management Services to Identified Children

If states were unable to deliver case management to all children whose blood lead levels qualified them for services, they were asked what obstacles they had encountered to prevent service delivery. Twenty-two state programs (43%) indicated that lack of cooperation by families was an obstacle. Inadequate supply of case managers was cited as an obstacle by 8 programs (16%) and insufficient reimbursement was identified as an obstacle by 9 programs (18%). 15 programs identified other obstacles, including 8 that indicated that families moved and left no forwarding address, making it impossible for them to find the family; 3 that cited lack of provider awareness or understanding of the problem; 2 that indicated that not all local programs had the resources to track all children; and 1 state each indicating undocumented workers feared retaliation from landlord, lab reporting problems, inadequate tracking system, and system in place now not being a "true case management system." 3 states did not answer this question.

Unmet Needs for Case Management Program Improvement

Programs were asked to identify three things that they believed should be changed so that children who needed case management could get appropriate services in a timely and effective fashion. Of the 39 states that responded to this question, 17 provided three suggestions, 14 provided 2 suggestions and 8 provided 1 suggestion. 12 did not answer this question. Responses were categorized into 11 types of recommendations and summarized in Table 6-20.

Table 6-20 Unmet Needs for Case Management Program Improvement

Type of Recommendation	# of Programs	% of Programs
Reimbursement or additional funding	22	58
Increased housing resources	9	23
Increased screening	7	18
Increased buy-in from child health providers	7	18
Improved reporting	7	18
Establish standard of care for case management	6	15
Improvement in type or quality of follow-up	6	15
Improved coordination	5	13
Improved analysis/evaluation by the program	3	8
Improved tracking	2	5
Other	2	5

Funding/Reimbursement for Case Management

With regards to reimbursement or additional funding for staff, 18 of the 39 programs specifically mentioned the need for reimbursement for case management services, either from Medicaid, private insurance, or state funding sources. Four of the 20 programs (20%) mentioned the need for additional federal support for their program. One state indicated that the distribution of federal funds should be improved so that all states have access to funding to support childhood lead poisoning prevention programs. Two programs indicated they needed to focus on contractual relationships with managed care.

Increased Housing Resources

Nearly one-quarter of all programs answering this question indicated that they needed increased resources for all types of housing resources, including immediate source reduction (cleaning and other temporary measures), more permanent lead hazard reduction or abatement, and access to lead-safe housing for either temporary or permanent relocation. This response indicates that programs consider the lack of housing resources a serious impediment to their ability to provide effective case management. In the eyes of state programs, case management and lead hazard control in housing are clearly inextricably tied together. One program indicated that all three of their unmet needs were related to lack of housing resources.

Increased Screening

Seven of 38 programs indicated that increased screening was needed in their state. Comments included the need for improved medical coverage for children (1), the need for blood lead testing services to be available in provider's offices (1), the need for the state program to monitor private providers for compliance with screening (1), the need for improved screening by managed care (2), the need to consider screening at WIC clinics to bypass managed care (1), and the need to simplify blood lead collection (1).

Increased "Buy-in" from Child Health Providers

7 of 38 programs indicated that they needed to increase "buy-in" from child health providers, a response that reflects frustration with poor screening rates. 6 indicated that education or training was needed to improve knowledge and increase participation in providing medical intervention and appropriate referrals and follow-up care. 1 stated that physician reluctance to see lead as an important issue was a major impediment for the program. 1 indicated that additional monitoring of child health providers was needed to ensure that practice was appropriate. 1 program indicated that private providers should do their own case management.

Improved Reporting

7 states indicated that they needed to improve their reporting systems.

Establish a Standard of Care for Case Management

6 states supported the need for a standard of care for case management. All 6 noted the need for uniform standards for case management performance or establishment of a clear-cut protocol or definition. Such a standard could be used to ensure that adequate case management services would be delivered, particularly in the

private sector. One program noted that CDC's current references to case management are vague.

Improvement in Type or Quality of Follow-Up

7 of 38 programs indicated that the type or quality of case management follow-up needed to be improved in their state. 2 stated that training was needed, and 1 program noted that training should have uniform standards. 1 program felt that local programs needed additional computers and XRF equipment. 2 indicated that additional services to address socio-economic needs (including social workers) were needed. 2 programs indicated that availability of trained case managers was a problem. 1 program indicated that local case managers were doing follow-up on Medicaid-eligible children only and felt that the focus needed to be broadened to all children. Many of these issues would likely be addressed in case management standards.

Improved Coordination

5 state programs indicated that improved coordination in case management was needed. 1 noted the need for awareness and cooperation with other early childhood service providers (WIC, Head Start, and day care providers). 1 indicated that additional coordination was needed between nursing case managers and environmental health. 1 state indicated that support for case management was needed at the local level, where services would be delivered. 1 state was on the verge of implementing a promising new model (RI).

Improved Analysis/Evaluation

3 programs indicated that they needed to improve their own analysis or evaluation efforts. All three received CDC funding (CT, IL, MO). 1 program expressed interest in looking closely at the issues surrounding children lost to follow-up and those with social problems. Two programs specifically indicated that evaluation was needed of existing programs.

Improved Tracking

Of the two states that indicated improvement in tracking was needed, one has no CDC funding (KS) and the other is a national leader in targeted screening (IL).

Other

Only one program suggested that better parental response would improve their ability to provide appropriate services (VT). One program identified the need for an additional public relations effort or media campaign (NM).

CHAPTER 7

ANALYSIS OF STATE RESPONSES ON ENVIRONMENTAL INVESTIGATION

This chapter presents the analysis of survey responses on issues related to environmental investigation, including blood lead levels at which environmental investigation is provided, providers and types of services provided, and sources of funding for these services. It also includes information about "unmet needs" in environmental investigation as reported by state respondents.

I. INITIATING SERVICES

Blood Lead Trigger for Environmental Investigation

States were asked at what blood lead level environmental investigation is performed. Of the 49 respondents who answered this question, all but 1 provided specific blood lead level criteria for environmental investigations. See Table 7-1.

The vast majority of states (35 or 71%) used 20 µg/dL as the trigger. Of these, 20 states used a single, confirmed blood lead level of 20, and 13 states also provided the service for a persistent or repeated level at 15 µg/dL. In 2 states, the trigger was 20 in most places, but some localities were able to provide services at 15 µg/dL. A smaller number of states routinely offer environmental investigation at lower blood lead levels: 9 states do so at 15 µg/dL (or 17, in one case) and 2 provide at levels between 10 and 15 µg/dL.

Tabe 7-1 Blood Lead Trigger for Environmental Investigation

Blood Lead Level	# and % of States	Comments
≥ 10 µg/dL	2 (4%)	In 1 state, localities vary in the 10 - 20 range
≥ 15 µg/dL	9 (18%)	1 state uses cutoff of 17 µg/dL
≥ 20 µg/dL	35 (71%)	20 states use 20 µg/dL 13 states use single 20 or persistent/repeated 15 In 2 states, some localities offer inv. at 15
≥ 25 µg/dL	2 (4%)	Required at 25; optional at 20
Varies (no range specified)	1 (2%)	
No reply	2	

Referrals for Environmental Investigation

States were asked who refers children for environmental investigation. Of the 46 states that replied to this question, most reported that referrals came from health departments (in 32 states). Health care providers referred children in 24 states and central registries in 15 states. Many programs receive referrals from multiple sources. See Table 7-2.

Table 7-2 Referrals for Environmental Investigation

Provides Referrals	# of States Answering "Yes"	# of States Answering "No"
Health departments	32 (70%)	14 (30%)
Health care providers	24 (52%)	22 (48%)
Central registries	15 (33%)	31 (67%)
Other sources	15 (33%) [8 laboratories; 4 lead program or case managers; 1 surveillance program; and, 1 Indian Health Service]	31 (67%)

II. SETTING STANDARDS FOR SERVICES

Entities Performing Environmental Investigations

Of the 49 states that responded to this question, all 49 indicated that the state, county, or local health departments perform at least some environmental investigations. All states but one reported direct provision of the service; the other state provides the service through private investigators acting as agents of the health department. 12 states reported that environmental investigations were also performed by other entities including: private inspectors, county or city sanitarians, city housing inspectors, private apartment complexes, and the state agriculture agency.

Qualifications for Those Performing Environmental Investigation

35 states have minimum standards for the providers who may perform environmental investigations. In one state, the standards only apply to Medicaid cases. Of these, the majority (24 states — 69%)

require state certification or licensing based on the EPA model, and 2 others require EPA training. Five states required other kinds of training or had other standards. Three could not be determined from the replies. 11 states reported no standards and 5 did not reply.

Standards for Environmental Investigation

States were asked if there is a written protocol establishing standards for the environmental investigation. 36 states (77%) of the 47 responding to this question indicated that there is a written state protocol, of which 5 were still in draft, development, or field testing. Two states indicated that the protocols varied by locality. Seven states reported that there was no written protocol; two answered "unknown;" and, four did not reply.

Components of Environmental Investigation

States were asked what activities are performed as part of an initial environmental investigation. Responses are tabulated in Table 7-3. Additional detail is provided below.

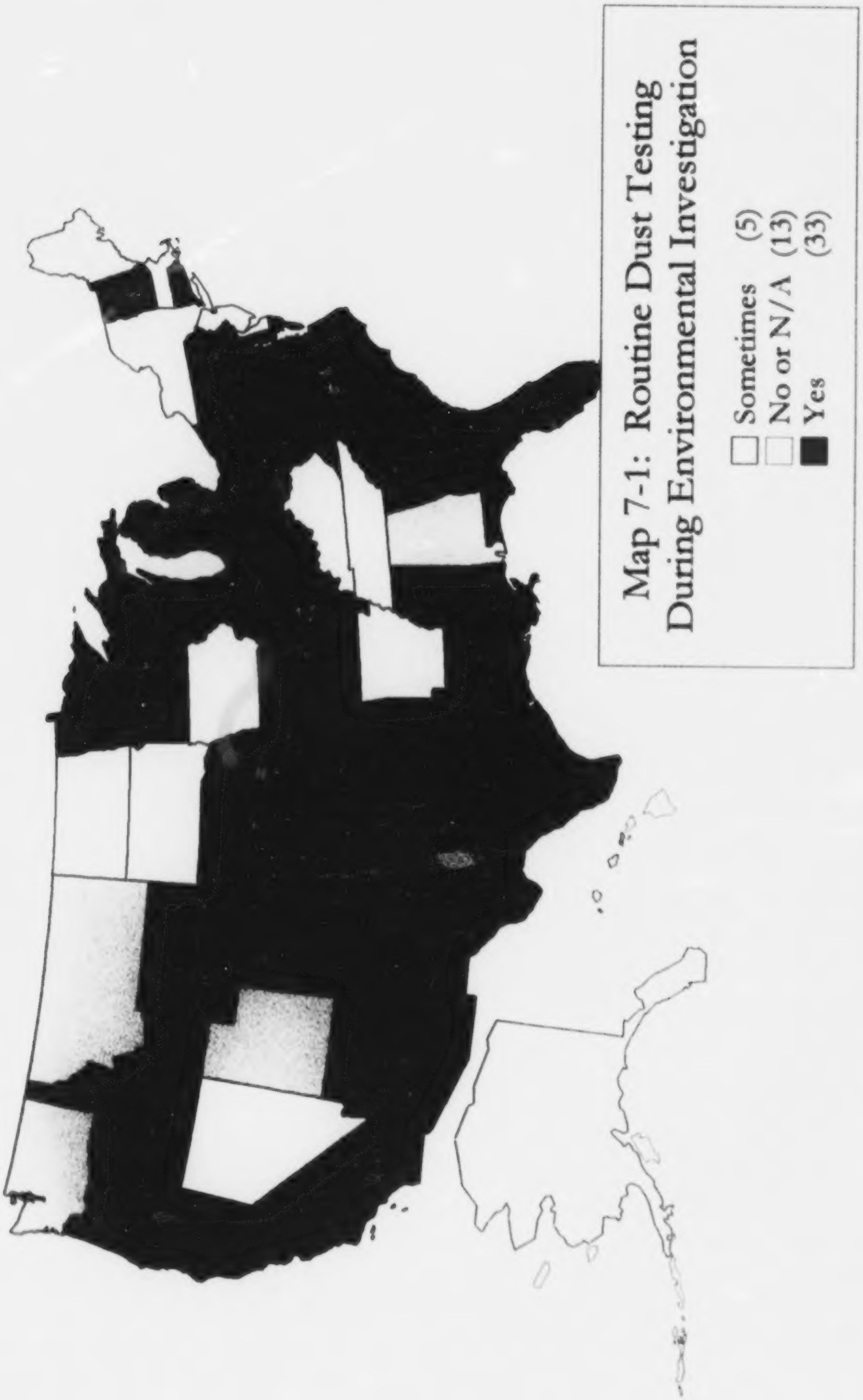
Dust Wipe Testing

Of the 47 programs that answered this question, 33 states (70%) reported that they routinely do dust testing as part of an environmental investigation and another 5 states (11%) indicated that they do so sometimes, depending on the circumstances. Nine states (19%) reported that they do not do dust testing. See Map 7-1.

Of the 38 states reporting the use of dust testing, 14 reported the number of wipe tests performed per investigation and 9 stated that the number varied without indicating the range. 15 states did not reply. There was considerable variation in the number of wipes performed, with state responses ranging from: "1 to 3" to "15" to "varies." One state reported doing wipes at entry/exit ramps and windows. Of the 38 states using dust testing, 22 reported using single samples and just 1 used composites. 5 states indicated the use of both tests as needed and 10 did not provide this detail.

XRF Testing

States indicating that they used XRF testing were asked for more detail. Of the 39 states that indicated the use of XRF, 22 reported doing "full XRF testing of interior and exterior." 14 states indicated



Map 7-1: Routine Dust Testing During Environmental Investigation

□ Sometimes (5)
░ No or N/A (13)
■ Yes (33)

that they did partial XRF testing. Some of these tested only deteriorated, accessible, chewable, impact, and/or friction surfaces (in different combinations). Others performed hazard screens. Others tested only to determine presence of LBP, and some tested as determined by risk assessment/questionnaire.

Paint Chip Testing

Of the 40 states that reported doing paint chip testing, 26 indicated doing it to identify lead-based paint and 22 reported doing it to confirm inconclusive XRF readings (some indicated both reasons). One state uses sodium sulfide on site to test for lead-based paint.

Visual Inspections of Exterior

Of the 45 states that reported doing visual inspections of the exterior, 43 reported doing so to identify deteriorated paint and 21 reported assessing structural soundness. 12 states reported looking at other factors, including: other possible sources; child's outdoor play area; bare soil around foundation; paint debris or chips; accessibility, friction, etc; and, other conditions conducive to lead poisoning.

Table 7-3 Components of Environmental Investigation

	# of States Answering "Yes"	# of States Answering "It Depends," "As Needed," or "Varies"	# of States Answering "No"	# of States that Did Not Respond or Answered "n/a"
Dust wipe testing	33	5	9	4
XRF testing	36	3	7	5
Paint chip testing	36	4	7	4
Visual inspection of exterior	45	0	2	4
Visual inspection of interior	44	0	2	4
Water testing	24	13	10	4
Soil testing	31	11	5	4
Questionnaire re: sources	38	1	8	4
Laboratory testing of other sources	•	22	24	5

Visual Inspections of Interior

Of the 44 states that reported doing visual inspections of the interior, 43 reported doing so to identify deteriorated paint and 19 reported assessing structural soundness. 11 states reported looking at other factors, including: other possible sources; general cleanliness; child's play area; accessible, friction, and impact surfaces; and, teeth marks and play habits.

Water Testing

Very little detail was obtained about the water testing practices. 24 states reported doing it routinely and 13 reported doing it on as-needed basis. Only a few states offered criteria, explaining that they did it only for infants and/or for well water.

Soil Testing

Similarly, little detail was obtained about soil testing practices. Of the 42 states that reported doing soil testing, 25 reported some specifics about their practices. Most of these indicated that the specifics varied case-by-case, with some linking testing to the questionnaire. A few limited soil testing to bare soil, play areas, or drip lines.

Questionnaire and Laboratory Testing for Other Sources

Many states reported using the results of a questionnaire to make decisions about "customizing" the investigation to the circumstances at hand. 39 states reported use of a questionnaire. The questionnaire was reported frequently as a common trigger for laboratory tests to identify or rule out non-paint sources of lead exposure. 22 states reported the use of additional laboratory tests on an as-needed basis. States mentioned testing folk medicines, toys, food additives, vinyl mini-blinds, cosmetics, pottery, and jewelry. One state reported using spot check tests as a screen before laboratory testing. One state reported doing dust samples from carpet.

Sites for Environmental Investigations

States were asked where environmental investigations occur and how investigative sites are determined. State responses about individual sites are presented in Table 7-4. Many responses were qualified by comments indicating flexibility on where to conduct the investigation(s). In fact, 31 states reported that investigative sites are chosen on the basis of where the child spends time; some states

Table 7-4 Sites for Environmental Investigations

Sites for Environmental Investigation	# of States Answering "Yes"	# of States Answering "It Depends"	# of States Answering "No"	# of States that Did Not Respond or Answered "n/a"
Child's home	39	9	0	3
Day care	16	26	2	7
Home of relative/friend	14	24	2	11

used 8 or 10 hours/week as a threshold for determining if a site would be investigated. Most states reported making these determinations via an interview or questionnaire completed by the parent or guardian. One state (NY) reported routinely investigating two sites per child.

Recipients of Results of Environmental Investigation

States were asked who is informed of the results of environmental investigations of residences (See Table 7-5). Almost all states that answered this question (46 of 47) reported that families are informed of the results of investigations. Most also reported notifying the property owner (38 always do so and 3 do sometimes) and the child's health care provider (36 states always do so and 5 do so sometimes). Twenty states reported notifying others, including case manager/lead program (9) and local health department (8). Other responses were: state heath department; surveillance program; state database; Section 8, if applicable; housing authority, if applicable; and, one state has notification protocols under development.

Table 7-5 Recipients of Results of Environmental Investigation

Who Is Informed	# of States Answering "Yes"	# of States Answering "It Depends" or "Varies"	# of States Answering "No"	# of States that Did Not Respond or Answered "n/a"
Family	46	0	1	4
Property Owner	38	3	6	2
Child's Health Care Provider	36	5	5	5
Other	20	1	6	24

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Authority to Order Remediation

States were asked if they had authority to order remediation. Of the 46 states that answered the question, 18 (40%) indicated that they did have authority; 11 (24%) indicated that it existed only in some local jurisdictions; 17 (37%) said they did not have authority. 6 did not respond. Of those reporting authority to order remediation, 14 were authorized in a lead-specific state law or regulation.

Resources for Abatement or Lead Hazard Control

States were asked about the availability of funds for abatement or lead hazard control. Twenty-two (45%) of the 49 responding states indicated that no funds were available. 12 states (25%) said that there were funds available, but almost all emphasized that the funding is limited. 14 states (29%) reported that the availability of hazard control resources varied by locality. 1 states said it was unclear and 2 did not respond. Of the 26 states reporting at least some funds available at the state or local level, 18 reported using HUD grants and another 3 states apparently use HUD grants.

Obstacles to Providing Environmental Investigation

If states reported providing environmental investigation to less than 100% of the children needing these services, they were asked to identify the obstacles they encountered. 23 states indicated that families don't cooperate, sometimes due to fear of losing housing or other landlord retaliation. 14 states reported losing families to follow-up, often because they move. 7 states blamed an insufficient supply of investigators, 3 said they lacked other sufficient personnel and resources, and 3 said property owners won't cooperate. Two states indicated that insufficient funding/reimbursement was the principal reason. Two other responses were lack of complete address and no one home to allow access to property.

III. FINANCING SERVICES

Funding Sources for Environmental Investigation

Most jurisdictions are using multiple funding sources, patching together funds as they can. See Table 7-5. CDC grant funds are the most common single source of funds for environmental investigation, with 22 states reporting this funding source. Some states rely entirely on CDC grant funds. Medicaid reimbursement is the next most common source of funding, with 20 states receiving at least some reimbursement for services provided for Medicaid-enrolled children. State funds provide support in 17 states and local or county funds in 15 states.

Table 7-5 Sources of Funding for Environmental Investigation

Source of Funding	# of States Reporting EI Funds from that Source	Notes
Medicaid reimbursement	20 successfully billing of 22 with policy in place	AL has not billed due to agency perception of "double dipping" VT was just about to begin billing TN has problems collecting from MCOs
CDC grant	22	20 CLPP grantees; 1 surveillance grantee; 1 former-CLPP grantee w/ close-out funds
State CHIP program	0	
Private health insurance	0	
Public funds other than Medicaid or CDC	36	17 use state funds (2 have special funds - 1 from industry fees; 1 from state screening fund) 15 use local or county agency funds (12 county or local health department; 3 other agencies) 9 use federal block grant funds (4 MCH; 3 Preventive Health Services; 2 unspecified) 7 use EPA grant funds 2 use HUD funds 2 use Superfund 2 did not specify
Private funds	1	PA reported that some managed care organizations are funding some environmental investigations

Other sources that have been tapped include federal block grant funds, EPA and HUD grants, and Superfund where available. Just one state reported using private funds. Pennsylvania reports that managed care organizations are funding some environmental investigations. No states reported reimbursement from CHIP or private insurance funds.

Sufficiency of Funding for Environmental Investigation

When asked if available funds are sufficient to provide environmental investigation for all families with lead-poisoned children, just 28 states responded affirmatively. 16 states indicated that they could not provide adequate services. 5 states did not respond and 2 answered "not applicable" because they have not identified children needing the service.

Of the 28 states indicating that they were sufficiently funded: 26 were CDC grantees (24 CLPP and 2 surveillance) and 14 had Medicaid reimbursement for environmental investigation. Of the 16 states indicating insufficient funds for environmental investigation, 10 were CDC grantees (6 CLPP and 4 surveillance), 7 had Medicaid reimbursement, and 1 is former CDC grantee

States that indicated insufficient funds were asked how priorities for environmental investigation are set. Of the 16 states indicating insufficient funds:

- 7 states prioritized children according to blood lead level
- 6 states rely on local health departments to set priorities (varies by county; local health department funds used; "county does it anyway;" local HD provides visual inspection for children identified by HD, and others referred out)
- 1 state prioritizes children by risk and income
- 1 state provides service at a loss since reimbursement doesn't cover costs
- 1 state did not answer

Plans to Seek Other Funding

17 States had plans to pursue specific identified possible sources of funding for environmental investigations, and another 3 had only general plans and did not identify a prospective funding source. Of the 17 that identified desired funding sources: 5 states planned to seek funds (reimbursement) from Medicaid; 4 states planned to seek CDC grants; 3 states HUD grants; 1 State planned to increase collections for its fund from industry fees; 1 State planned to seek general revenue funds; and, 3 states planned to get other grant funds (including Maternal and Child Health Block Grant & AmeriCorps).

Mechanism for Medicaid Reimbursement for Environmental Investigation

Of the 51 programs that replied to this question, 22 states indicated that their state has established a mechanism for the Medicaid program to reimburse for environmental investigations to determine the source of lead exposure for a lead-poisoned child. Of these 22 states, 19 currently receive CDC lead grant support (17 CLPP and 2 surveillance). More than half of the states (29) do not yet have this

Table 7-6 Status of Medicaid Reimbursement for Environmental Investigation by State

States With Medicaid Reimbursement Mechanism in Place	States Without Medicaid Reimbursement Mechanism in Place
Alabama	Alaska
California	Arizona
Colorado	Arkansas
Florida	Connecticut
Georgia	Delaware
Illinois	District of Columbia
Iowa	Hawaii
Louisiana	Idaho
Michigan	Indiana
Missouri	Kansas
Nebraska	Kentucky
New Jersey	Maine
North Carolina	Maryland
North Dakota	Massachusetts
Ohio	Minnesota
Pennsylvania	Mississippi
Rhode Island	Montana
Tennessee	Nevada
Vermont	New Hampshire
Virginia	New Mexico
West Virginia	New York
Wisconsin	Oklahoma
	Oregon
	South Carolina
	South Dakota
	Texas
	Utah
	Washington
	Wyoming

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reimbursement in place, including 14 states with CDC CLPP funding and 8 states with CDC surveillance grants. The self-reported status of individual states is presented in Table 7-6.

States were asked whether there was a written agreement with the Medicaid agency to reimburse for environmental investigation, but most did not respond to this question. Of the states that do obtain Medicaid reimbursement and responded to this question, there is a wide variation in the formality of the written instrument authorizing reimbursement for this activity. Approaches included a memorandum (North Carolina), an interdepartmental agreement (Ohio), and emergency regulations (California).

Medicaid Reimbursement Amount for Environmental Investigations

Of the 22 states providing Medicaid reimbursement for environmental investigations, 19 states provided information about the amount that is reimbursed. Table 7-7 summarizes Medicaid reimbursement rates and Table 7-8 presents actual reimbursement rates for states that reported them. States reported a remarkable range of reimbursement — ranging from a low of $38 in Louisiana to a high of $490 in Ohio.

This wide range suggests that it is important to compare the reimbursement rate with the scope of services being provided. It also makes clear that the amount reimbursed is very relevant — at least one state reported "declining" Medicaid reimbursement due to the administrative costs associated with billing and record-keeping.

Table 7-7 Medicaid Reimbursement Amount for Environmental Investigations

Amount Reimbursed by Medicaid for Environmental Investigation	# and % of States
< $50	2 (11%)
$100 - 199	7 (37%)
$200 - 299	3 (16%)
> $300	5 (26%)
Variable based on time/expense	2 (11%)

Table 7-8 Medicaid Reimbursement Amount for Environmental Investigations - State by State Responses

Alabama	1st $230; none for 2nd residence or follow-up
California	$270 EPSDT reimbursement for environmental investigation
Georgia	$229.60 for initial investigation; $197.34 for post-abatement inspection
Illinois	$43.75 per investigation
Iowa	based on agency average cost, up to $350 per investigation.
Louisiana	$38 Medicaid reimbursement
Michigan	Medicaid approx. $100 first visit; $70 for 2nd visit; none after that
Missouri	Medicaid $142 initial; $71 for first reassessment; but only for primary residence
Nebraska	$100
New Jersey	$130 initial; $50 follow-up
North Carolina	$335.09 per child
North Dakota	Depends on time spent
Ohio	ODH $490 per Medicaid investigation; local HD receives $350 per Medicaid investigation
Pennsylvania	MA/FFS cost of providing service up to $350
Rhode Island	$750 x 46% = $345
Tennessee	$128.90 per case
Virginia	$150
West Virginia	varies with mileage, XRF, # of samples -- not consistent
Wisconsin	$100 initial; $50 follow-up

Scope of Medicaid Environmental Investigation Coverage

States were asked what types of investigations are reimbursable by Medicaid. Of the 22 states reporting Medicaid coverage for environmental investigation, 21 responded to the question. Some states had limits on coverage. For example, Iowa limited coverage to 1 investigation every 6 months if a child moves, while Georgia limited reimbursement to one investigation per child per lifetime.

State Medicaid policies vary:

- 21 states cover an initial environmental investigation
- 16 states cover a follow-up investigation
- 6 cover an investigation for compliance purposes

Percent of Environmental Investigations Performed for Children Enrolled in Medicaid

States were asked what percentage of their environmental investigation cases was for Medicaid-enrolled children. Of the 43 states that responded to this question, 14 states — about a third — answered "unknown." Of the states that provided percentages, most indicated that their responses were estimates.

Table 7-9 Environmental Investigation Cases for Children Enrolled in Medicaid

Estimated percentage of environmental investigation cases for Medicaid children	# and % of states
80 - 90%	12 (28%)
60 - 79%	6 (14%)
40 - 59%	5 (12%)
20 - 39%	2 (5%)
0 - 19%	1 (2%)
Unknown/do not track	14 (33%)
n/a	3 (7%)

IV. TRACKING AND EVALUATING SERVICES

Availability of Data on Environmental Investigations Provided

States were asked how many children were identified with blood lead levels high enough to warrant environmental investigations during the last reporting period, and how many of their homes were evaluated. 34 states furnished data on the number of children with EBLs that qualified them for environmental investigation and 7 provided estimates. 10 states did not respond. 38 states provided data on the number of environmental investigations performed (although some were ranges or estimates). 3 states indicated that the data was unknown and 10 did not reply. The absolute number of investigations performed per state per year ranged from 0 (Alaska where no children needing service were identified) to 7,829 dwellings (New York for 3,865 children)

30 states provided information on the percentage of eligible children identified for environmental investigation whose homes were investigated or provided data sufficient for calculating a percentage. Recognizing that some were only estimates provided by the individual who completed the survey, the results are summarized below. 22 states reported providing environmental investigation to better than 90% of the children identified as needing the service (of whom 9 states reported 100% and 1 state reported investigating an average of two dwellings per child for a rate of 203%). 6 states reported providing investigations to 80-89% of children needing it, 1 state reported 70%, and 1 state reported 50%. A few states did not provide data allowing calculation of a percentage, but offered narrative comments like "all that could be located" or "assume 100% but may be delayed" which are more difficult to interpret.

Results of Environmental Investigations

States were asked if they tracked the results of environmental investigations and if they had data indicating the identified source of a child's lead exposure. If so, we asked for the data. While 27 indicated that they monitored the results, only 13 indicated that they had data on identified sources of exposure - and only a few provided the data along with their survey response. Unfortunately, the responses to this question did not produce enough data to support any broad conclusions about current exposure patterns — except the need for more comprehensive and consistent data collection and analysis.

Unmet Needs for Environmental Investigation

Survey respondents were asked "What are the three things that you believe should be changed in order for children needing environmental investigations to get appropriate services in a timely and effective fashion?" 38 states responded to this question.

- 21 states indicated that more funding was needed. Most did not specify a desired source of funds. A handful of states identified Medicaid reimbursement specifically, and other states mentioned private insurance or state CHIP reimbursement, or CDC funding. Some commented on the need to improve existing reimbursement rates.

- 11 states indicated the need for more trained inspectors to do investigations

- 7 states cited the need for more timely and complete reporting of EBL cases by laboratories or health care providers to the health department/lead program for follow-up

- 4 states indicated the need for resources for remediating identified lead hazards in homes

- 4 states indicated the need for more education and support for health care providers in referring cases

- 4 states indicated the need for better communication between various sectors involved (medical, environmental, public health, and/or case managers)

- 3 states indicated the need for more training (no additional details provided)

In addition, there were 21 other specific needs identified by individual states in a number of areas (program, technology, research, legislative/policy, and housing).

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CHAPTER 8
STATE-BY-STATE PROGRESS REPORTS

On the following pages, we provide individual reports on state progress in developing policies and practices for responding to lead-poisoned children. Our purpose in developing these progress reports was to recognize those programs that have developed high-quality programs to deliver case management and environmental investigation. We also hoped to identify areas where improvements should be made to ensure that lead-poisoned children receive the care that they need and deserve. As explained in the Introduction to this report, we hope and expect to see a dramatic increase in the number of young children screened for lead poisoning in the near future, particularly in the Medicaid program. Consequently, it is important that the systems be in place to respond promptly and humanely to children identified with elevated blood lead levels.

Each state progress report contains objective information about each state program. Information about case management and environmental investigation policies was culled from the survey responses. Supporting information, such as data on the state's housing stock, was gathered from other sources. This section explains what information is presented on each state's progress report.

Facts and Figures

Each progress report contains basic factual information about each state program.

CDC Grantee: Indicates whether the state received FY 98 CDC lead grant funding and, if so, what type (Childhood Lead Poisoning Prevention (CLPP) or Surveillance).

State Law on Screening or Follow-Up: Indicates whether there is a state law on lead screening or follow-up care. A "Yes" was only provided if the state reported that the law requires screening or follow-up treatment of young children for lead poisoning. (We did not do independent verification of state statutes.) States received a "No" for laws dealing only with blood lead level reporting requirements or other laboratory-only requirements.

Predictors of Risk for CLP: Provides U.S. census data on the number of pre-1950 housing units and the percentage of pre-50 housing units in the state (source: CDC, *Screening Young Children for Lead Poisoning, 1997*).

Number of Children Identified with Blood Lead Levels ≥ 20 µg/dL in 1997: This is a self-reported number provided by states on the December 1998 follow-up survey. The year 1997 was selected as the most recent year for which programs could be expected to have reliable data at the time of the survey. Comparing the reported number of cases across states will give the reader an idea of the range of caseloads nationally, as well as the extent to which a lead poisoning problem has been identified. This data is presented in Map 8-1 on page 74. However, this study could not assess the screening penetration in each state, so we do not know how well these data reflect the actual (or relative) prevalence of lead poisoning in each state. Some states were unable to provide the exact number or any number, usually reflecting a problem with the blood lead reporting system.

Program Descriptions

Each progress report contains a brief narrative description of the state approach to case management and environmental investigation, including comments on unusual features.

Key Indicators on Case Management and Environmental Investigation

Each progress report features a list of key indicators on case management and environmental investigation. These indicators are vital components of high-quality programs and provide benchmarks against which to gauge state progress in implementing adequate polices for case management and environmental investigation. At the same time, it is important to acknowledge that these fixed indicators may not, in fact, all be necessary in all states due to the variation in state law, the organization of health care finance and services, or the distribution of responsibilities. A description of each indicator is provided below.

A checkmark (✓) next to the indicator indicates that the state has achieved that indicator. For a few indicators, an asterisk (*) is used to denote partial completion of the indicator (see the text of each indicator for further explanation). If a state's status *could not* be determined because the question was not answered on the survey, no checkmark was given.

Tracking System For Blood Lead Levels

This measure reflects answers to two questions on the December 1998 follow-up survey: whether states had a state blood lead reporting system and whether it was fully operational for reporting blood leads to the state and local health department. Programs with a reporting system in place that was not fully operational are scored with an asterisk (*), indicating that further efforts are needed. In states with CDC-funded local jurisdictions, if the local program indicated that it was having difficulty getting cases reported from the state, the system was determined to be "not fully operational."

Protocol for Case Management

This indicator was reported on the original survey. Some states provided copies of their state protocols, but we did not assess them to determine their sufficiency in providing guidance for case managers. However, a one-page outline of what to do with children identified with blood lead levels (similar to Table 4.3 in CDC's 1997 Screening guidance, page 106) was not recorded as a state protocol. States in the process of developing a protocol are scored with an asterisk (*).

Medicaid Reimbursement for Case Management

This indicator was reported on both the original survey and the December 1998 follow-up survey. This measure indicates that a mechanism for Medicaid reimbursement is in place but is not a determination of the sufficiency of the level of reimbursement.

Home Visit Included in Case Management

This indicator was reported on the original survey.

Written Communication with the Child's Health Care Provider

This measure reflects the answers to two questions on the December 1998 follow-up survey: whether programs sent a written report to the child's health care provider after (1) their initial visit, including their assessment and plan; or (2) they had closed a case, indicating completion of follow-up and planned interventions. Programs received a checkmark if they sent a written report at either of these two points in time.

Comprehensive Organization of CM Services

This measure reflects answers to 11 questions on the original survey concerning a program's organization and management of case management services: provision of comprehensive case assessment, development of a plan, documentation of case management interventions, including the family in the plan, and provision of services to more than 90% of identified cases. Assessment was determined to be "comprehensive" if it included at least an assessment of visual conditions, an assessment of other lead exposures by history and an assessment of the family's understanding of the problem plus one other measure (including WIC, resources, dust wipe testing and other). Programs that included 4 of the 5 measures were determined to be "comprehensive." Programs that included 3 of the 5 measures were scored with an asterisk (*).

Case Management Close-Out Criteria

This indicator was reported on the original survey. Programs received a checkmark if they indicated that they had a state standard for close-out of cases, even if some local jurisdictions were more stringent. The criteria were not judged for sufficiency.

State Oversight of CM Service Delivery

This measure reflects answers to 3 questions on the original survey. The adequacy of state oversight was based on: report that the case management outcomes of each case were reviewed at the state level; knowledge by the state program about delivery of case management services to identified individuals; and, report that the state tabulated or analyzed the results of their case management work. We did not judge the sufficiency of written reports. States with more than 1,000 cases per year received a checkmark for having case management outcomes reviewed by local programs. Programs were determined to have state oversight if 2 of the 3 elements were in place.

State or Local Programs Know CM Costs

This indicator was reported on the original survey. States received a checkmark if either the state or the local jurisdictions doing the case management work had determined how much it cost them to provide case management services. States with local jurisdictions responding to our survey were recorded with an asterisk if the local jurisdiction in their state reported that they had conducted cost determinations even though the state was not aware of such determinations.

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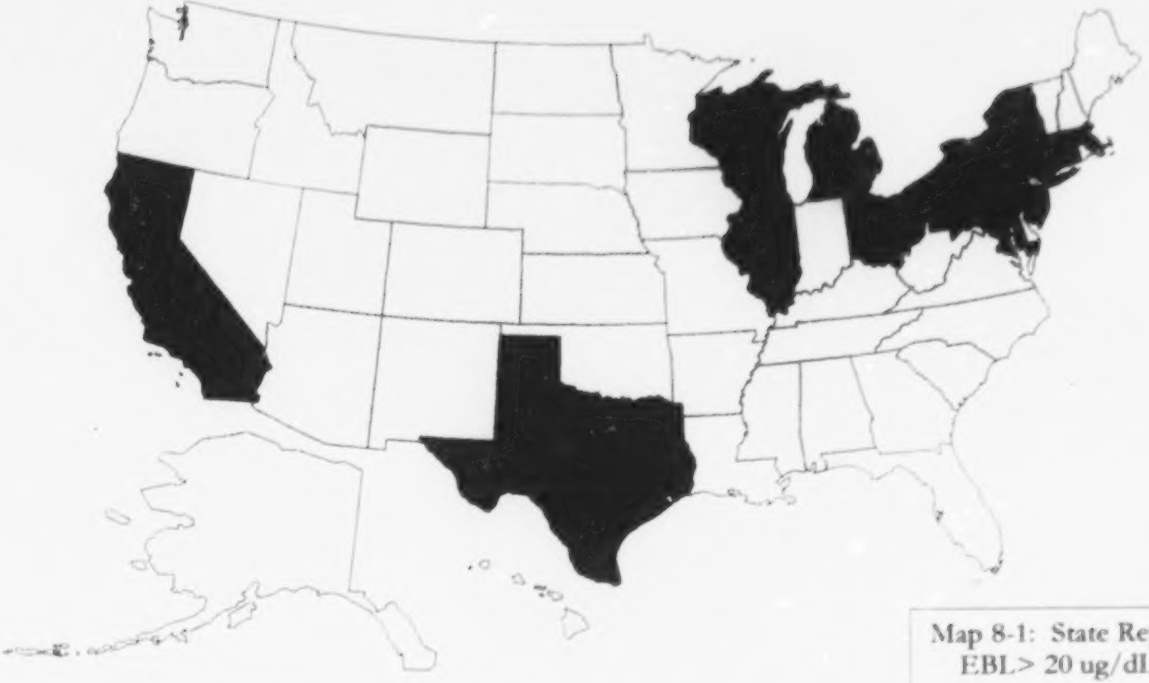
Qualifications for Environmental Investigators
States received a checkmark for having any set of specified qualifications. We did not assess the sufficiency of the qualifications.

Protocol for Environmental Investigation
States received a checkmark even if their protocol was still in draft, development, or field-testing.

Dust Testing as Part of Comprehensive Investigation
For this indicator, we tried to assess whether dust testing was done routinely as part of a comprehensive environmental investigation. The comprehensiveness of the investigation protocol was assessed based on the entire package, using Chapter 16 of the HUD Guidelines ("Investigation and Treatment of Dwellings Housing Children with Elevated Blood Lead Levels") as the reference point. In addition to dust testing, investigations must include: paint chip or XRF testing; water testing, soil testing, and other laboratory tests as indicated; and, a questionnaire or interview for other sources.

Medicaid Reimbursement for Environmental Investigation
This measure indicates that a mechanism for Medicaid reimbursement is in place, but we made no attempt to determine the sufficiency of the amount of reimbursement. This factor is based solely on the state survey responses; we did not verify reports with state Medicaid or EPSDT agencies.

Data On Results Of Investigation
States received a checkmark even if the only data tracked was in Stellar.



Map 8-1: State Reporting of EBL> 20 ug/dL -- 1997

☐ < 500 cases (31)
■ > 500 cases (12)
No information (8)

ALABAMA

CDC Grantee: Yes/CLPPP State Law on Screening or Follow-up: No
Predictors of Risk for CLP: 298,303 Pre-50 Housing Units; 17.9% Pre-50 Housing
144 Children Identified with Blood Lead Levels ≥20 µg/dL in 1997

Program Description

LHD SWs and PHNs, plus the state coordinator, provide CM services with oversight by and support from state coordinator. Medicaid reimbursement available, billable on hourly rate ($36/hour) for PHN and SWs who have taken 3-day CM course that includes lead content. Case managers bill Medicaid directly.

EI funded by CDC and state. Performed by lead environmentalists with state lead poisoning prevention program (4 positions funded by CDC; 2 in-kind by state). Must be state certified. Medicaid reimbursement approved ($230) but won't bill (state thinks it would be "double dipping"). EI protocol in draft. Dust wipe testing on follow-up only at 6 months with persistent EBL.

Key Indicators on Case Management and Environmental Investigation

✓	Tracking System For Blood Lead Levels
	Protocol For Case Management
✓	Medicaid Reimbursement for Case Management
✓	Home Visit Included in Case Management
✓	Written Communication w/Health Care Provider
✓	Comprehensive Organization of CM Services
✓	CM Close-Out Criteria

✓	State Oversight of CM Service Delivery
	State or Local Programs Know CM Costs
✓	Qualifications For Investigators
✓	Protocol For Environmental Investigation
	Dust Testing As Part Of Comprehensive Investigation
✓	Medicaid Reimbursement for Env. Investigation
✓	Data On Results Of Investigation

ALASKA

CDC Grantee: Yes/Surveillance State Law on Screening or Follow-up: No
Predictors of Risk for CLP: 16,248 Pre-50 Housing Units; 7.0% Pre-50 Housing
0 Children Identified with Blood Lead Levels ≥20 µg/dL in 1997

Program Description

No lead poisoned children, therefore no CM. CM services would be available if needed by LHD professionals and private providers. No state protocol for or oversight of CM presently in place. Medicaid pays for screening but no reimbursement for CM.

No lead poisoned children, therefore no EI. Medicaid reimbursement for EI has not been established.

Key Indicators on Case Management and Environmental Investigation

✓	Tracking System For Blood Lead Levels
	Protocol For Case Management
	Medicaid Reimbursement for Case Management
	Home Visit Included in Case Management
	Written Communication w/Health Care Provider
	Comprehensive Organization of CM Services
	CM Close-Out Criteria

	State Oversight of CM Service Delivery
	State or Local Programs Know CM Costs
	Qualifications For Investigators
	Protocol For Environmental Investigation
	Dust Testing As Part Of Comprehensive Investigation
	Medicaid Reimbursement for Env. Investigation
	Data On Results Of Investigation

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ARIZONA

CDC Grantee: Yes/CLPPP State Law on Screening or Follow-up: No
Predictors of Risk for CLP: 110,746 Pre-50 Housing Units; 6.7% Pre-50 Housing
60 Children Identified with Blood Lead Levels ≥20 µg/dL in 1997

Program Description

LHD professionals provide CM services following state protocol with strong oversight and support by State HD. No Medicaid reimbursement for CM activities. Program supported entirely by CDC funding. Excellent annual summary of data including outcome information on environmental investigation.

EI done at 20 or persistent 15 µg/dl. EI funded by federal block grant and some state funds. EI performed by HD and City of Phoenix Lead Abatement Program personnel. No standards for personnel. No Medicaid reimbursement. Protocol in draft. Comprehensive EI.

Key Indicators on Case Management and Environmental Investigation

✓	Tracking System For Blood Lead Levels
✓	Protocol For Case Management
	Medicaid Reimbursement for Case Management
✓	Home Visit Included in Case Management
✓	Written Communication w/Health Care Provider
✓	Comprehensive Organization of CM Services
✓	CM Close-Out Criteria

✓	State Oversight of CM Service Delivery
	State or Local Programs Know CM Costs
	Qualifications For Investigators
✓	Protocol For Environmental Investigation
✓	Dust Testing As Part Of Comprehensive Investigation
	Medicaid Reimbursement for Env. Investigation
✓	Data On Results Of Investigation

ARKANSAS

CDC Grantee: No State Law on Screening or Follow-up: Yes
Predictors of Risk for CLP: 176,662 Pre-50 Housing Units; 17.7% Pre-50 Housing
44 Children Identified with Blood Lead Levels ≥20 µg/dL in 1997

Program Description

CM services provided by phone with occasional home visit. LHD professionals manage cases of BLLs 10-19; State HD professionals manage cases ≥20. CM policy in place for LHDs, with all support for local CM activities provided by state and local funds.

EI at 20 µg/dL. EI funded by EPA grant and performed by HD state-certified personnel. No Medicaid reimbursement. No protocol. Comprehensive EI but no dust testing.

Key Indicators on Case Management and Environmental Investigation

*	Tracking System For Blood Lead Levels
✓	Protocol For Case Management
	Medicaid Reimbursement for Case Management
	Home Visit Included in Case Management
	Written Communication w/Health Care Provider
	Comprehensive Organization of CM Services
✓	CM Close-Out Criteria

✓	State Oversight of CM Service Delivery
	State or Local Programs Know CM Costs
✓	Qualifications For Investigators
	Protocol For Environmental Investigation
	Dust Testing As Part Of Comprehensive Investigation
	Medicaid Reimbursement for Env. Investigation
	Data On Results Of Investigation

CALIFORNIA

CDC Grantee: Yes/CLPPP State Law on Screening or Follow-up: No
Predictors of Risk for CLP: 2,211,243 Pre-50 Housing Units; 19.8% Pre-50 Housing
1000+ Children Identified with Blood Lead Levels ≥20 μg/dL in 1997

Program Description

CM done by public health nurses at LHDs. Medicaid reimbursement available; rates vary locally. Biggest source of funding is state fund generated by assessments on lead polluters. State protocol for CM in place.

EI at 20 or 2 at 15-19 μg/dL 30 days apart. Funded by state funds from industry fees and Medicaid reimbursement. EI performed by Registered Environmental Health Specialists with local environmental health departments. Medicaid reimbursement policy is state regulations. Protocol in place. Comprehensive EI including dust testing but sample collection varies depending on case history, visual inspection, and investigator judgment. Good data.

Key Indicators on Case Management and Environmental Investigation

*	Tracking System For Blood Lead Levels
✓	Protocol For Case Management
✓	Medicaid Reimbursement for Case Management
✓	Home Visit Included in Case Management
	Written Communication w/Health Care Provider
✓	Comprehensive Organization of CM Services
✓	CM Close-Out Criteria

✓	State Oversight of CM Service Delivery
✓	State or Local Programs Know CM Costs
✓	Qualifications For Investigators
✓	Protocol For Environmental Investigation
✓	Dust Testing As Part Of Comprehensive Investigation
✓	Medicaid Reimbursement for Env. Investigation
✓	Data On Results Of Investigation

COLORADO

CDC Grantee: Yes/Surveillance State Law on Screening or Follow-up: No
Predictors of Risk for CLP: 270,562 Pre-50 Housing Units; 18.3% Pre-50 Housing
25 Children Identified with Blood Lead Levels ≥20 μg/dL in 1997

Program Description

LHDs and private providers funded by MCOs provide CM services with some oversight by the State HD. Medicaid reimburses LHDs for initial and follow-up CM visit (amount unknown). No state protocol for CM.

EI at 20 or 2 ≥15 in 3 months. EI performed by HD, local agency staff, and private inspectors under contract, usually trained by state HD (no other qualifications required). EI funded by EPA grant and Medicaid reimbursement. Written protocol in place. Comprehensive EI with dust testing.

Key Indicators on Case Management and Environmental Investigation

✓	Tracking System For Blood Lead Levels
	Protocol For Case Management
✓	Medicaid Reimbursement for Case Management
✓	Home Visit Included in Case Management
✓	Written Communication w/Health Care Provider
✓	Comprehensive Organization of CM Services
	CM Close-Out Criteria

✓	State Oversight of CM Service Delivery
	State or Local Programs Know CM Costs
✓	Qualifications For Investigators
✓	Protocol For Environmental Investigation
✓	Dust Testing As Part Of Comprehensive Investigation
✓	Medicaid Reimbursement for Env. Investigation
✓	Data On Results Of Investigation

CONNECTICUT

CDC Grantee: Yes/CLPPP State Law on Screening or Follow-up: NR
Predictors of Risk for CLP: 462,808 Pre-50 Housing Units; 35% Pre-50 Housing
800 Children Identified with Blood Lead Levels ≥20 μg/dL in 1997

Program Description

LHD staff provide CM. No Medicaid reimbursement for CM. All CM services supported through state and local funds. State protocol for CM under development.

EI at 20. EI performed by trained local health department investigators. Funded by CDC CLPP grant and state funds. No Medicaid reimbursement. Written protocol. Comprehensive EI w/optional dust testing.

Key Indicators on Case Management and Environmental Investigation

✓	Tracking System For Blood Lead Levels
*	Protocol For Case Management
	Medicaid Reimbursement for Case Management
✓	Home Visit Included in Case Management
	Written Communication w/Health Care Provider
✓	Comprehensive Organization of CM Services
✓	CM Close-Out Criteria

✓	State Oversight of CM Service Delivery
	State or Local Programs Know CM Costs
✓	Qualifications For Investigators
✓	Protocol For Environmental Investigation
✓	Dust Testing As Part Of Comprehensive Investigation
	Medicaid Reimbursement for Env. Investigation
✓	Data On Results Of Investigation

DELAWARE

CDC Grantee: Yes/CLPPP State Law on Screening or Follow-up: Yes
Predictors of Risk for CLP: 64,704 Pre-50 Housing Units; 22.3% Pre-50 Housing
68 Children Identified with Blood Lead Levels ≥20 μg/dL in 1997

Program Description

CM services provided by professionals employed by State HD. State CM protocol includes referral to Early Intervention program. No Medicaid reimbursement. Program supported by state and local funds.

EI at 20 or 2 consecutive venous at 15 - 19. EI performed by health department or City Inspection Program staff with state certification. Funded with State funds and EPA funds. No Medicaid reimbursement. Protocol in regulation. EI includes XRF, visual inspection of interior and exterior, and questionnaire, but no dust, soil, water, or paint chip testing. Comprehensive state screening and reporting law.

Key Indicators on Case Management and Environmental Investigation

✓	Tracking System For Blood Lead Levels
✓	Protocol For Case Management
	Medicaid Reimbursement for Case Management
✓	Home Visit Included in Case Management
✓	Written Communication w/Health Care Provider
✓	Comprehensive Organization of CM Services
✓	CM Close-Out Criteria

✓	State Oversight of CM Service Delivery
	State or Local Programs Know CM Costs
✓	Qualifications For Investigators
✓	Protocol For Environmental Investigation
	Dust Testing As Part Of Comprehensive Investigation
	Medicaid Reimbursement for Env. Investigation
✓	Data On Results Of Investigation

DISTRICT OF COLUMBIA

CDC Grantee: Yes/CLPPP State Law on Screening or Follow-up: Yes
Predictors of Risk for CLP: 155,194 Pre-50 Housing Units; 55.7% Pre-50 Housing
171 Children Identified with Blood Lead Levels ≥20 µg/dL in 1997

Program Description

No Medicaid reimbursement. HD does all visiting. 100% of funding is federal.

EI at 15. EI performed by HD staff, certified Housing Environmental Investigators. EI funded by CDC CLPP grant. No Medicaid reimbursement. Existence of written protocol unknown. Comprehensive EI including dust testing by survey response; documentation appears to focus on XRF only. No data available.

Key Indicators on Case Management and Environmental Investigation

✓	Tracking System For Blood Lead Levels	✓	State Oversight of CM Service Delivery
✓	Protocol For Case Management		State or Local Programs Know CM Costs
	Medicaid Reimbursement for Case Management	✓	Qualifications For Investigators
✓	Home Visit Included in Case Management		Protocol For Environmental Investigation
✓	Written Communication w/Health Care Provider	✓	Dust Testing As Part Of Comprehensive Investigation
*	Comprehensive Organization of CM Services		Medicaid Reimbursement for Env. Investigation
✓	CM Close-Out Criteria	✓	Data On Results Of Investigation

FLORIDA

CDC Grantee: Yes/Surveillance State Law on Screening or Follow-up: No
Predictors of Risk for CLP: 472,481Pre-50 Housing Units; 7.7% Pre-50 Housing
Unknown Number of Children Identified with Blood Lead Levels ≥20 µg/dL in 1997

Program Description

LHD staff provide CM services. No state protocol for or oversight of CM. LHD staff are reimbursed by billing for services on their "cost reports." Medicaid calculates reimbursement based on allowable costs. Supply of case managers is inadequate.

EI trigger varies by county; most use 20 µg/dL, some 15 µg/dL. EI performed by county health department staff. EI funded by Medicaid reimbursement and county health department budgets; some families asked to contribute to costs of EI. County level protocols. Comprehensive EI w/partial XRF. No data collected at state level.

Key Indicators on Case Management and Environmental Investigation

*	Tracking System For Blood Lead Levels		State Oversight of CM Service Delivery
	Protocol For Case Management		State or Local Programs Know CM Costs
✓	Medicaid Reimbursement for Case Management		Qualifications For Investigators
	Home Visit Included in Case Management	✓	Protocol For Environmental Investigation
	Written Communication w/Health Care Provider	✓	Dust Testing As Part Of Comprehensive Investigation
	Comprehensive Organization of CM Services	✓	Medicaid Reimbursement for Env. Investigation
✓	CM Close-Out Criteria		Data On Results Of Investigation

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GEORGIA

CDC Grantee: No State Law on Screening or Follow-up: No
Predictors of Risk for CLP: 381,827 Pre-50 Housing Units; 14.5% Pre-50 Housing
Unknown Number of Children Identified with Blood Lead Levels ≥20 μg/dL in 1997

Program Description

State has no Federal grants funds for CLPPP. Has State guidelines for follow-up activity. CM done by LHD does not usually include home visiting. No Medicaid reimbursement and no state oversight of CM activities.

EI at 20 or 2 15-19. EI performed by HD staff with state certification (EPA model). Funded by state after loss of CDC grant. Medicaid reimbursement is provided. Protocol is Chapter 16 of HUD Guidelines. Comprehensive EI.

Key Indicators on Case Management and Environmental Investigation

✓	Tracking System For Blood Lead Levels		State Oversight of CM Service Delivery
✓	Protocol For Case Management		State or Local Programs Know CM Costs
	Medicaid Reimbursement for Case Management	✓	Qualifications For Investigators
	Home Visit Included in Case Management	✓	Protocol For Environmental Investigation
✓	Written Communication w/Health Care Provider	✓	Dust Testing As Part Of Comprehensive Investigation
	Comprehensive Organization of CM Services	✓	Medicaid Reimbursement for Env. Investigation
	CM Close-Out Criteria		Data On Results Of Investigation

HAWAII

CDC Grantee: Yes/Surveillance State Law on Screening or Follow-up: No
Predictors of Risk for CLP: 52,347 Pre-50 Housing Units; 13.4% Pre-50 Housing
16 Children Identified with Blood Lead Levels ≥20 μg/dL in 1997

Program Description

CM services provided by LHD and private providers under contract to MCOs. State provides oversight and assistance as needed. All LHD effort supported through state and local funds.

EI at 20. EI by HD. No standards for providers. No protocol. EI includes paint chips, water, soil, and visual inspections — but no XRF or dust. Very low case load — "n/a" answered to most survey questions.

Key Indicators on Case Management and Environmental Investigation

	Tracking System For Blood Lead Levels		State Oversight of CM Service Delivery
	Protocol For Case Management		State or Local Programs Know CM Costs
	Medicaid Reimbursement for Case Management		Qualifications For Investigators
✓	Home Visit Included in Case Management		Protocol For Environmental Investigation
	Written Communication w/Health Care Provider		Dust Testing As Part Of Comprehensive Investigation
✓	Comprehensive Organization of CM Services		Medicaid Reimbursement for Env. Investigation
	CM Close-Out Criteria		Data On Results Of Investigation

IDAHO

CDC Grantee: No State Law on Screening or Follow-up: No
Predictors of Risk for CLP: 100,738 Pre-50 Housing Units; 24.4% Pre-50 Housing
No Response —Children Identified with Blood Lead Levels ≥20 µg/dL in 1997

Program Description

No CM services are provided, except in the Panhandle district where Superfund money has been available. Environmental investigation does include education and a cleaning demonstration.

BLL for EI not known. Environmental investigation performed by local HD staff, environmental health specialists. EI was funded by EPA grant through 1998, now just local funds (except Superfund money available in Panhandle district.) No state level protocol. Comprehensive EI with water and soil testing as warranted; no XRF except in Panhandle district.

Key Indicators on Case Management and Environmental Investigation

✓	Tracking System For Blood Lead Levels
	Protocol For Case Management
	Medicaid Reimbursement for Case Management
	Home Visit Included in Case Management
	Written Communication w/Health Care Provider
	Comprehensive Organization of CM Services
	CM Close-Out Criteria

	State Oversight of CM Service Delivery
	State or Local Programs Know CM Costs
	Qualifications For Investigators
	Protocol For Environmental Investigation
✓	Dust Testing As Part Of Comprehensive Investigation
	Medicaid Reimbursement for Env. Investigation
	Data On Results Of Investigation

ILLINOIS

CDC Grantee: Yes/CLPPP State Law on Screening or Follow-up: Yes
Predictors of Risk for CLP: 1,662,888 Pre-50 Housing Units; 36.9% Pre-50 Housing
8,140 Children Identified with Blood Lead Levels ≥20 µg/dL in 1997

Program Description

CM supported through legislative establishment of a screening fund that receives revenue from a number of sources, including the state public health lab. $7 of fees for each screening test goes towards CM expenses. From this fund, approximately $7 is paid to the LHD for each screen to help cover their CM costs for EBL children. Illinois has required that all Medicaid blood lead testing be done by the state laboratory, which is billed at $25.75. No direct reimbursement from Medicaid for CM. 78 LHDs provide CM services. State protocol and state oversight provided for very large caseload.

EI at 25 µg/dl or optional at 20 µg/dl if requested by physician. EI performed by state or local health department staff inspectors. EI funded by Medicaid reimbursement or state lead screening fund. Comprehensive EI and written protocol.

Key Indicators on Case Management and Environmental Investigation

✓	Tracking System For Blood Lead Levels
✓	Protocol For Case Management
	Medicaid Reimbursement for Case Management
✓	Home Visit Included in Case Management
✓	Written Communication w/Health Care Provider
✓	Comprehensive Organization of CM Services
✓	CM Close-Out Criteria

✓	State Oversight of CM Service Delivery
✓	State or Local Programs Know CM Costs
✓	Qualifications For Investigators
✓	Protocol For Environmental Investigation
✓	Dust Testing As Part Of Comprehensive Investigation
✓	Medicaid Reimbursement for Env. Investigation
	Data On Results Of Investigation

INDIANA

CDC Grantee: Yes/CLPPP State Law on Screening or Follow-up: No
Predictors of Risk for CLP: 756,843 Pre-50 Housing Units; 33.7% Pre-50 Housing
430 Children Identified with Blood Lead Levels $\geq$20 μg/dL in 1997

Program Description

No Medicaid reimbursement. Program funded primarily through federal funds (CDC, MCH). Innovative program to recruit lead screening providers. Well-documented case management system.

EI at 20. EI performed primarily by state and local HD (and some by private inspectors for local apartment complexes). EI funded through CDC grant. Certification took effect in late 1998. Protocol in place. No Medicaid reimbursement. EI includes dust wipe, full XRF, and paint chip testing; soil testing as needed; no visual inspections, water testing, or questionnaire.

Key Indicators on Case Management and Environmental Investigation

	Tracking System For Blood Lead Levels
✓	Protocol For Case Management
	Medicaid Reimbursement for Case Management
✓	Home Visit Included in Case Management
✓	Written Communication w/Health Care Provider
✓	Comprehensive Organization of CM Services
✓	CM Close-Out Criteria

	State Oversight of CM Service Delivery
	State or Local Programs Know CM Costs
✓	Qualifications For Investigators
✓	Protocol For Environmental Investigation
	Dust Testing As Part Of Comprehensive Investigation
	Medicaid Reimbursement for Env. Investigation
✓	Data On Results Of Investigation

IOWA

CDC Grantee: Yes/CLPPP State Law on Screening or Follow-up: Yes (Medicaid only)
Predictors of Risk for CLP: 490,394 Pre-50 Housing Units; 42.9% Pre-50 Housing
360 Children Identified with Blood Lead Levels $\geq$20 μg/dL in 1997

Program Description

CM services are provided in 99 counties primarily by professionals, including LHD and private providers following state protocols. Referrals are extensive & include Early Intervention. Limited CM follow-up by mail for BLL 10-14. State HD provides technical assistance & funding to agencies providing services. Some LHD nursing staffs are now private, non-profit organizations under contract to LHD. Medicaid reimbursement for CM, both "targeted CM" and home nursing visits by Medicare-certified home nursing agency & authorized by physician. Not all local programs have obtained reimbursement.

EI at 20 or 2 venous 15-19. Varies by county, but EI performed by state public health staff, county public health nursing staff (some contractors), county or city sanitarians or housing inspectors, or private nonprofit housing rehab inspector. Must be certified inspector or inspection agency. EI funded by CDC lead grants, local funds, and Medicaid reimbursement. Written protocol. EI includes XRF, visual inspections of interior and exterior, questionnaire and lab testing for other sources as needed. No dust wipes, paint chip, water, or soil testing.

Key Indicators on Case Management and Environmental Investigation

✓	Tracking System For Blood Lead Levels
✓	Protocol For Case Management
✓	Medicaid Reimbursement for Case Management
✓	Home Visit Included in Case Management
	Written Communication w/Health Care Provider
✓	Comprehensive Organization of CM Services
✓	CM Close-Out Criteria

	State Oversight of CM Service Delivery
✓	State or Local Programs Know CM Costs
✓	Qualifications For Investigators
✓	Protocol For Environmental Investigation
	Dust Testing As Part Of Comprehensive Investigation
✓	Medicaid Reimbursement for Env. Investigation
✓	Data On Results Of Investigation

KANSAS

CDC Grantee: No State Law on Screening or Follow-up: No
Predictors of Risk for CLP: 345,564 Pre-50 Housing Units; 33.1% Pre-50 Housing
165 Children Identified with Blood Lead Levels ≥20 µg/dL in 1997

Program Description

LHD professionals provide CM services following minimal state protocol. No Medicaid reimbursement for CM activities, which are entirely supported by State and local funding. No central oversight of LHD services.

EI recommended at 20. EI performed by heath departments. Must have completed EPA Risk Assessor Training. No Medicaid reimbursement. EI funded by state CLPPP budget and local HD budgets. Protocol under revision. Comprehensive EI.

Key Indicators on Case Management and Environmental Investigation

✓	Tracking System For Blood Lead Levels
✓	Protocol For Case Management
	Medicaid Reimbursement for Case Management
✓	Home Visit Included in Case Management
	Written Communication w/Health Care Provider
	Comprehensive Organization of CM Services
	CM Close-Out Criteria

	State Oversight of CM Service Delivery
	State or Local Programs Know CM Costs
✓	Qualifications For Investigators
✓	Protocol For Environmental Investigation
✓	Dust Testing As Part Of Comprehensive Investigation
	Medicaid Reimbursement for Env. Investigation
	Data On Results Of Investigation

KENTUCKY

CDC Grantee: No State Law on Screening or Follow-up: Yes
Predictors of Risk for CLP: 364,678 Pre-50 Housing Units; 24.2% Pre-50 Housing
396 Children Identified with Blood Lead Levels ≥20 µg/dL in 1997

Program Description

Professionals from LHD and Private organizations provide CM services following state protocol. LHD provides CM for HD cases only; no follow-up provided to children seen by private providers. State HD provides oversight for LHD CM only. No oversight provided for any CM by private providers or MCOs ("private MDs take care of their own"). No Medicaid reimbursement for CM.

EI at 20. EI (visual inspections) performed by local HD for children identified by HD, and other families referred to state-certified private inspectors. EI funded with state or local funds. No Medicaid reimbursement. No information provided about components of EI.

Key Indicators on Case Management and Environmental Investigation

*	Tracking System For Blood Lead Levels
✓	Protocol For Case Management
	Medicaid Reimbursement for Case Management
✓	Home Visit Included in Case Management
✓	Written Communication w/Health Care Provider
✓	Comprehensive Organization of CM Services
✓	CM Close-Out Criteria

	State Oversight of CM Service Delivery
	State or Local Programs Know CM Costs
✓	Qualifications For Investigators
✓	Protocol For Environmental Investigation
	Dust Testing As Part Of Comprehensive Investigation
	Medicaid Reimbursement for Env. Investigation
	Data On Results Of Investigation

LOUISIANA

CDC Grantee: Yes/CLPPP State Law on Screening or Follow-up: Yes
Predictors of Risk for CLP: 333,965 Pre-50 Housing Units; 19.5% Pre-50 Housing
Unknown Number of Children Identified with Blood Lead Levels ≥20 µg/dL in 1997

Program Description

State protocol, CM by LHDs, no Medicaid reimbursement. Supported by state and local funding.

EI at 20. EI performed by HD; state licensing regulations based on EPA model. EI funded by state funds, block grant funds, and Medicaid reimbursement. Draft protocol in field-testing. Comprehensive EI w/all.

Key Indicators on Case Management and Environmental Investigation

*	Tracking System For Blood Lead Levels		State Oversight of CM Service Delivery
✓	Protocol For Case Management		State or Local Programs Know CM Costs
	Medicaid Reimbursement for Case Management	✓	Qualifications For Investigators
✓	Home Visit Included in Case Management	✓	Protocol For Environmental Investigation
	Written Communication w/Health Care Provider	✓	Dust Testing As Part Of Comprehensive Investigation
*	Comprehensive Organization of CM Services	✓	Medicaid Reimbursement for Env. Investigation
✓	CM Close-Out Criteria		Data On Results Of Investigation

MAINE

CDC Grantee: Yes/CLPPP State Law on Screening or Follow-up: No
Predictors of Risk for CLP: 242,858 Pre-50 Housing Units; 41.1% Pre-50 Housing
60 Children Identified with Blood Lead Levels ≥20 µg/dL in 1997

Program Description

CM provided by LHDs and CHNs under contract to the state HD. State has a reimbursement mechanism for Medicaid but no funding has been received yet. State bills private insurers. Referrals for developmental evaluation and Head Start as needed. No state protocol for case management.

EI at 20. EI performed by HD, state licensed lead inspectors. EI funded by CDC lead grants and Preventive Health Block Grant. No Medicaid reimbursement. Protocol in place. Comprehensive EI (both dust and XRF), no paint chip testing.

Key Indicators on Case Management and Environmental Investigation

✓	Tracking System For Blood Lead Levels		State Oversight of CM Service Delivery
	Protocol For Case Management		State or Local Programs Know CM Costs
✓	Medicaid Reimbursement for Case Management	✓	Qualifications For Investigators
✓	Home Visit Included in Case Management	✓	Protocol For Environmental Investigation
✓	Written Communication w/Health Care Provider	✓	Dust Testing As Part Of Comprehensive Investigation
✓	Comprehensive Organization of CM Services		Medicaid Reimbursement for Env. Investigation
	CM Close-Out Criteria		Data On Results Of Investigation

MARYLAND

CDC Grantee: Yes/CLPPP State Law on Screening or Follow-up: NR
Predictors of Risk for CLP: 473,984 Pre-50 Housing Units; 25.1% Pre-50 Housing
546 Children Identified with Blood Lead Levels ≥20 μg/dL in 1997

Program Description

CM provided by LHD staff to all EBL children with BLLs over 20. Medicaid reimbursement available and obtained by some programs. Most CM supported by federal funds. State protocol in place.

EI at 20. EI performed by state environmental dept, or local health or environmental depts., by state licensed inspectors or risk assessors. EI funded by CDC lead grants, EPA grant, Title V MCH funds at local level, and state funds. No Medicaid reimbursement. Written protocol. Comprehensive EI (no water testing).

Key Indicators on Case Management and Environmental Investigation

✓	Tracking System For Blood Lead Levels
✓	Protocol For Case Management
✓	Medicaid Reimbursement for Case Management
✓	Home Visit Included in Case Management
	Written Communication w/Health Care Provider
✓	Comprehensive Organization of CM Services
✓	CM Close-Out Criteria

✓	State Oversight of CM Service Delivery
	State or Local Programs Know CM Costs
✓	Qualifications For Investigators
✓	Protocol For Environmental Investigation
✓	Dust Testing As Part Of Comprehensive Investigation
	Medicaid Reimbursement for Env. Investigation
✓	Data On Results Of Investigation

MASSACHUSETTS

CDC Grantee: Yes/CLPPP State Law on Screening or Follow-up: Yes
Predictors of Risk for CLP: 1,157,737 Pre-50 Housing Units; 46.8% Pre-50 Housing
823 Children Identified with Blood Lead Levels ≥20 μg/dL in 1997

Program Description

RN/public health nurses provide CM coordination and oversight. Services are provided by state and local HD as well as private providers under managed care contracts. Some services are provided by family lead counselors. Medicaid and private insurers are billed. State protocol in place (changing). Primary source of support for CM is state and local funds. Active multi-disciplinary team reviews cases every 90 days.

EI offered at 20; required at 25. EI performed by state licensed inspectors for HD, local agencies, and some private inspectors. EI funded by state and local funds and MCH block grant. No Medicaid reimbursement. Written protocol in place. EI only includes XRF and sodium sulfide on site, but identification of any lead-based paint in the EI triggers a full lead risk assessment paid for by property owner per state law. State has comprehensive lead law requiring screening of all young children and abatement in homes occupied by young children.

Key Indicators on Case Management and Environmental Investigation

✓	Tracking System For Blood Lead Levels
✓	Protocol For Case Management
✓	Medicaid Reimbursement for Case Management
✓	Home Visit Included in Case Management
	Written Communication w/Health Care Provider
✓	Comprehensive Organization of CM Services
✓	CM Close-Out Criteria

✓	State Oversight of CM Service Delivery
	State or Local Programs Know CM Costs
✓	Qualifications For Investigators
✓	Protocol For Environmental Investigation
	Dust Testing As Part Of Comprehensive Investigation
	Medicaid Reimbursement for Env. Investigation
	Data On Results Of Investigation

MICHIGAN

CDC Grantee: Yes/CLPPP State Law on Screening or Follow-up: No
Predictors of Risk for CLP: 1,228,635 Pre-50 Housing Units; 31.9% Pre-50 Housing
696 Children Identified with Blood Lead Levels ≥20 μg/dL in 1997

Program Description

Medicaid reimbursement available for LHDS, covering 2 CM visits, @ $70. State HD actually seeks reimbursement from Medicaid and then reimburses LHD. State CM protocols in place.

EI varies by county — 10 to 20 μg/dL. EI performed by local HD and private inspectors under contract to local HD. No state certification yet. EI funded by HUD lead grants and MCH block grants. Medicaid reimbursement available for two environmental investigation visits to home. Recommended protocol in place. Actual components vary by county and investigator judgement. Majority (over 80%) of EI comprehensive including dust testing; XRF done less frequently (58%). Excellent guidelines/protocol for investigations.

Key Indicators on Case Management and Environmental Investigation

*	Tracking System For Blood Lead Levels
✓	Protocol For Case Management
✓	Medicaid Reimbursement for Case Management
✓	Home Visit Included in Case Management
	Written Communication w/Health Care Provider
✓	Comprehensive Organization of CM Services
	CM Close-Out Criteria

	State Oversight of CM Service Delivery
	State or Local Programs Know CM Costs
	Qualifications For Investigators
✓	Protocol For Environmental Investigation
✓	Dust Testing As Part Of Comprehensive Investigation
✓	Medicaid Reimbursement for Env. Investigation
✓	Data On Results Of Investigation

MINNESOTA

CDC Grantee: Yes/CLPPP State Law on Screening or Follow-up: Yes (on follow-up)
Predictors of Risk for CLP: 585,539 Pre-50 Housing Units; 31.7% Pre-50 Housing
358 Children Identified with Blood Lead Levels ≥20 μg/dL in 1997

Program Description

LHDs contract directly with MCOs to provide services. Medicaid reimbursement varies according to local contractual language. LHDs are reimbursed by the MCO. LHDs also bill private insurers. No state protocol for or oversight of CM.

EI at 20 or 15-20 for 90 days. EI responsibility of state or local public health departments. State licensed inspectors. EI funded by state and local funds, and block grant funds at local level. No Medicaid reimbursement. Written protocol. Comprehensive EI w/all recommended elements included.

Key Indicators on Case Management and Environmental Investigation

✓	Tracking System For Blood Lead Levels
	Protocol For Case Management
✓	Medicaid Reimbursement for Case Management
✓	Home Visit Included in Case Management
	Written Communication w/Health Care Provider
	Comprehensive Organization of CM Services
✓	CM Close-Out Criteria

	State Oversight of CM Service Delivery
	State or Local Programs Know CM Costs
✓	Qualifications For Investigators
✓	Protocol For Environmental Investigation
✓	Dust Testing As Part Of Comprehensive Investigation
	Medicaid Reimbursement for Env. Investigation
✓	Data On Results Of Investigation

MISSISSIPPI

CDC Grantee: No State Law on Screening or Follow-up: No
Predictors of Risk for CLP: 167,685 Pre-50 Housing Units; 16.6% Pre-50 Housing
93 Children Identified with Blood Lead Levels ≥20 µg/dL in 1997

Program Description

No CM done, however program refers all children <3 with BLLS a persistent 15-19 or 20+ to early intervention program for follow-up. Program has been unable to get any information on outcomes once children are referred. PHN may be sent out for follow-up on difficult cases. No follow-up for children >3.

EI at 20. EI performed by HD. EI funded by state environmental budget. No Medicaid reimbursement but proposal under development. Protocol is Chapter 16 of HUD Guidelines. Comprehensive EI w/both dust testing and XRF.

Key Indicators on Case Management and Environmental Investigation

✓	Tracking System For Blood Lead Levels		State Oversight of CM Service Delivery
	Protocol For Case Management		State or Local Programs Know CM Costs
	Medicaid Reimbursement for Case Management	✓	Qualifications For Investigators
	Home Visit Included in Case Management	✓	Protocol For Environmental Investigation
	Written Communication w/Health Care Provider	✓	Dust Testing As Part Of Comprehensive Investigation
	Comprehensive Organization of CM Services		Medicaid Reimbursement for Env. Investigation
✓	CM Close-Out Criteria	✓	Data On Results Of Investigation

MISSOURI

CDC Grantee: Yes/CLPPP State Law on Screening or Follow-up: No
Predictors of Risk for CLP: 629,868 Pre-50 Housing Units; 28.6 % Pre-50 Housing
Unkown Number of Children Identified with Blood Lead Levels ≥20 µg/dL in 1997

Program Description

CM done by MCOs and HD staff. State and local HD staff provide CM. HD sends MCO a list of children with BLLs >14 on a weekly basis. Referral goes through LHDs and PCPs. Medicaid reimbursement: $50 for initial, $40 for follow-up, 1 visit/month by an enrolled CM provider. 3 face to face visits required: initial, 3 months later and 6-7 months later to discharge the case. Excellent coding system to identify CM workload, services, and results. No prior authorization needed.

EI at 20 µg/dL or 2 results of 15-19 µg/dL 3 months apart. EI performed by state licensed providers w/state or local health department. EI funded by CDC lead grant, EPA grant, state funds, and Medicaid reimbursement. Written protocol currently being revised. Comprehensive EI.

Key Indicators on Case Management and Environmental Investigation

✓	Tracking System For Blood Lead Levels		State Oversight of CM Service Delivery
✓	Protocol For Case Management		State or Local Programs Know CM Costs
✓	Medicaid Reimbursement for Case Management	✓	Qualifications For Investigators
✓	Home Visit Included in Case Management	✓	Protocol For Environmental Investigation
	Written Communication w/Health Care Provider	✓	Dust Testing As Part Of Comprehensive Investigation
	Comprehensive Organization of CM Services	✓	Medicaid Reimbursement for Env. Investigation
✓	CM Close-Out Criteria	✓	Data On Results Of Investigation

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MONTANA

CDC Grantee: Yes/CLPPP State Law on Screening or Follow-up: No
Predictors of Risk for CLP: 108,805 Pre-50 Housing Units; 30.1% Pre-50 Housing
20 Children Identified with Blood Lead Levels ≥20 μg/dL in 1997

Program Description

LHD professionals provide CM services. State CM protocols in place. No Medicaid reimbursement for CM - screening is covered. Superfund funding is used for CM services in Butte.

EI at 15 (10 in Butte and E. Helena). EI performed by HD staff who've attended recognized training for lead inspector/risk assessor. EI funded by CDC lead grant, except in Butte where Superfund is used. No Medicaid reimbursement. No response on protocol. Comprehensive EI; dust testing only when XRF is inconclusive & sanding, etc has taken place.

Key Indicators on Case Management and Environmental Investigation

	Tracking System For Blood Lead Levels
✓	Protocol For Case Management
	Medicaid Reimbursement for Case Management
✓	Home Visit Included in Case Management
✓	Written Communication w/Health Care Provider
✓	Comprehensive Organization of CM Services
✓	CM Close-Out Criteria

✓	State Oversight of CM Service Delivery
	State or Local Programs Know CM Costs
✓	Qualifications For Investigators
	Protocol For Environmental Investigation
	Dust Testing As Part Of Comprehensive Investigation
	Medicaid Reimbursement for Env. Investigation
	Data On Results Of Investigation

NEBRASKA

CDC Grantee: Yes/CLPPP State Law on Screening or Follow-up: No
Predictors of Risk for CLP: 249,631 Pre-50 Housing Units; 37.8% Pre-50 Housing
97 Children Identified with Blood Lead Levels ≥20 μg/dL in 1997

Program Description

CM done by LHD professionals with coordination and assistance from State HD. 1-2 CM visits are typically made in the home. No State protocol for CM. No Medicaid reimbursement. CM activities funded by CDC and EPA grants. Case managers talk with landlords and housing authorities.

EI at 20 or persistent 15-19. EI performed by HD staff. EI funded by CDC lead grant, EPA grant, and Medicaid reimbursement. Written protocol; chapter 16 HUD Guidelines. Comprehensive EI; no paint chip testing.

Key Indicators on Case Management and Environmental Investigation

✓	Tracking System For Blood Lead Levels
	Protocol For Case Management
	Medicaid Reimbursement for Case Management
✓	Home Visit Included in Case Management
✓	Written Communication w/Health Care Provider
	Comprehensive Organization of CM Services
✓	CM Close-Out Criteria

✓	State Oversight of CM Service Delivery
	State or Local Programs Know CM Costs
	Qualifications For Investigators
✓	Protocol For Environmental Investigation
✓	Dust Testing As Part Of Comprehensive Investigation
✓	Medicaid Reimbursement for Env. Investigation
	Data On Results Of Investigation

NEVADA

CDC Grantee: No State Law on Screening or Follow-up: NR
Predictors of Risk for CLP: 31,044 Pre-50 Housing Units; 6.0% Pre-50 Housing
No Response: Children Identified with Blood Lead Levels ≥20 μg/dL in 1997

Program Description

Based on EPA-funded study, lead poisoning has not been found to be a problem in Nevada. No cases warranting CM or EI have been identified. No reporting system is in place. No CM or EI is done. Nevada has determined that lead contamination may be a problem in rural areas with history of industrial/commercial usage. However, no additional study has been done to determine if these areas pose a risk for childhood lead poisoning.

Key Indicators on Case Management and Environmental Investigation

	Tracking System For Blood Lead Levels
	Protocol For Case Management
	Medicaid Reimbursement for Case Management
	Home Visit Included in Case Management
	Written Communication w/Health Care Provider
	Comprehensive Organization of CM Services
	CM Close-Out Criteria

	State Oversight of CM Service Delivery
	State or Local Programs Know CM Costs
	Qualifications For Investigators
	Protocol For Environmental Investigation
	Dust Testing As Part Of Comprehensive Investigation
	Medicaid Reimbursement for Env. Investigation
	Data On Results Of Investigation

NEW HAMPSHIRE

CDC Grantee: Yes/CLPPP State Law on Screening or Follow-up: No
Predictors of Risk for CLP: 162,201Pre-50 Housing Units; 32.2% Pre-50 Housing
229 Children Identified with Blood Lead Levels ≥20 μg/dL in 1997

Program Description

CM done by LHD and private providers under contract to LHDs with oversight by the State HD. State protocol for CM includes referral to early intervention, WIC and, parent support group for all children ≥20. No Medicaid reimbursement. Program supported by State and Federal funds. State level CM includes coordination and assistance to health care providers and oversight of BLL testing. Protocol states that if outpatient chelation is done, children must reside in lead-safe environment. State tracks child through discharge from CM; closure letter is sent to health care providers identifying reason(s) for discharge from CM.

EI at 20. EI performed by health department; all state environmentalists are licensed inspectors, although not required by law. EI funded by CDC lead grant, EPA grant, and Preventive Health Block Grant. No Medicaid reimbursement. Written protocol. Comprehensive EI.

Key Indicators on Case Management and Environmental Investigation

✓	Tracking System For Blood Lead Levels
✓	Protocol For Case Management
	Medicaid Reimbursement for Case Management
✓	Home Visit Included in Case Management
	Written Communication w/Health Care Provider
✓	Comprehensive Organization of CM Services
✓	CM Close-Out Criteria

✓	State Oversight of CM Service Delivery
	State or Local Programs Know CM Costs
	Qualifications For Investigators
✓	Protocol For Environmental Investigation
✓	Dust Testing As Part Of Comprehensive Investigation
	Medicaid Reimbursement for Env. Investigation
✓	Data On Results Of Investigation

NEW JERSEY

CDC Grantee: Yes/CLPPP State Law on Screening or Follow-up: Yes
Predictors of Risk for CLP: 1,082,081 Pre-50 Housing Units; 35.2% Pre-50 Housing
2,038 Children Identified with Blood Lead Levels ≥20 μg/dL in 1997

Program Description

CM done by LHD and private providers under contract to LHDs. No state protocol. No Medicaid reimbursement mechanisms in place. CM supported through state, local, and federal MCH funds.

EI at 20. EI performed by local health departments by state certified inspectors. EI funded by local health department budgets; just beginning Medicaid reimbursement. Basic parameters of protocol in regulation; recommended procedures in guidance. EI includes XRF, visual inspections, paint chip testing, and questionniare — no dust, water, or soil testing.

Key Indicators on Case Management and Environmental Investigation

✓	Tracking System For Blood Lead Levels
	Protocol For Case Management
	Medicaid Reimbursement for Case Management
✓	Home Visit Included in Case Management
	Written Communication w/Health Care Provider
✓	Comprehensive Organization of CM Services
✓	CM Close-Out Criteria

	State Oversight of CM Service Delivery
	State or Local Programs Know CM Costs
✓	Qualifications For Investigators
✓	Protocol For Environmental Investigation
	Dust Testing As Part Of Comprehensive Investigation
✓	Medicaid Reimbursement for Env. Investigation
✓	Data On Results Of Investigation

NEW MEXICO

CDC Grantee: Yes/CLPPP State Law on Screening or Follow-up: No
Predictors of Risk for CLP: 97,750 Pre-50 Housing Units; 15.5 % Pre-50 Housing
12 Children Identified with Blood Lead Levels ≥20 μg/dL in 1997

Program Description

CM done by LHD professionals - SW with state protocols under development. Cases are referred for developmental assessment. No Medicaid reimbursement. Federal funds (CDC) support CM activities.

EI at 15. EI performed by LPPP staff and its contractors. EI funded by CDC lead grant. No Medic.. nbursement. Protocol in development. EI includes XRF for pre-50 housing, visual inspections, and water testing. Dust, paint chip, and soil testing as needed. No questionnaire.

Key Indicators on Case Management and Environmental Investigation

✓	Tracking System For Blood Lead Levels
✓	Protocol For Case Management
	Medicaid Reimbursement for Case Management
✓	Home Visit Included in Case Management
✓	Written Communication w/Health Care Provider
✓	Comprehensive Organization of CM Services
✓	CM Close-Out Criteria

✓	State Oversight of CM Service Delivery
	State or Local Programs Know CM Costs
	Qualifications For Investigators
✓	Protocol For Environmental Investigation
	Dust Testing As Part Of Comprehensive Investigation
	Medicaid Reimbursement for Env. Investigation
✓	Data On Results Of Investigation

NEW YORK

CDC Grantee: Yes/CLPPP State Law on Screening or Follow-up: Yes
Predictors of Risk for CLP: 3,401,416 Pre-50 Housing Units; 47.1% Pre-50 Housing
5,588 Children Identified with Blood Lead Levels ≥20 µg/dL in 1997

Program Description

Private providers and LHD staff provide CM visits. All CM done under oversight of LHD and/or State HD. Medicaid reimbursement at rates set locally, based on local cost data and not uniform. Some LHDs are successfully billing private insurers. LHD must be certified. State protocol and state oversight.

EI at 20. EI performed by health departments. EI funded by CDC lead grants. No Medicaid reimbursement. Protocol in place. Comprehensive EI w/no dust testing. Usually investigate two sites per child.

Key Indicators on Case Management and Environmental Investigation

✓	Tracking System For Blood Lead Levels
✓	Protocol For Case Management
✓	Medicaid Reimbursement for Case Management
✓	Home Visit Included in Case Management
✓	Written Communication w/Health Care Provider
*	Comprehensive Organization of CM Services
✓	CM Close-Out Criteria

✓	State Oversight of CM Service Delivery
✓	State or Local Programs Know CM Costs
	Qualifications For Investigators
✓	Protocol For Environmental Investigation
	Dust Testing As Part Of Comprehensive Investigation
	Medicaid Reimbursement for Env. Investigation
	Data On Results Of Investigation

NORTH CAROLINA

CDC Grantee: Yes/CLPPP State Law on Screening or Follow-up: No
Predictors of Risk for CLP: 494,675 Pre-50 Housing Units; 17.6% Pre-50 Housing
151 Children Identified with Blood Lead Levels ≥20 µg/dL in 1997

Program Description

State has $1 million appropriation to fund clinical and environmental follow-up services for each EBL child with at least a persistent 15+. LHDs get $2,000 per case. State protocol and state oversight.

EI at 20 or persistent above 15. EI conducted jointly by state and local HD staff w/EPA certification. EI funded by state and Medicaid funds (see above). Protocol in place. Comprehensive EI.

Key Indicators on Case Management and Environmental Investigation

✓	Tracking System For Blood Lead Levels
✓	Protocol For Case Management
	Medicaid Reimbursement for Case Management
✓	Home Visit Included in Case Management
	Written Communication w/Health Care Provider
✓	Comprehensive Organization of CM Services
✓	CM Close-Out Criteria

✓	State Oversight of CM Service Delivery
	State or Local Programs Know CM Costs
✓	Qualifications For Investigators
✓	Protocol For Environmental Investigation
✓	Dust Testing As Part Of Comprehensive Investigation
✓	Medicaid Reimbursement for Env. Investigation
✓	Data On Results Of Investigation

NORTH DAKOTA

CDC Grantee: No State Law on Screening or Follow-up: NR
Predictors of Risk for CLP: 85,128 Pre-50 Housing Units; 30.8% Pre-50 Housing
1 Child with Blood Lead Levels ≥20 µg/dL in 1997

Program Description

No CLPPP program, no state coordination or oversight of CM effort. CM provided for Medicaid-eligible children by EPSDT-funded staff in LHD and state HD. No reimbursement mechanism for children not eligible for EPSDT.

No BLL trigger. EI funded primarily through Medicaid reimbursement; balance not identified. No information provided on EI standards or components.

Key Indicators on Case Management and Environmental Investigation

✓	Tracking System For Blood Lead Levels	✓	State Oversight of CM Service Delivery
	Protocol For Case Management		State or Local Programs Know CM Costs
✓	Medicaid Reimbursement for Case Management		Qualifications For Investigators
✓	Home Visit Included in Case Management		Protocol For Environmental Investigation
✓	Written Communication w/Health Care Provider		Dust Testing As Part Of Comprehensive Investigation
✓	Comprehensive Organization of CM Services	✓	Medicaid Reimbursement for Env. Investigation
	CM Close-Out Criteria	✓	Data On Results Of Investigation

OHIO

CDC Grantee: Yes/CLPPP State Law on Screening or Follow-up: NR
Predictors of Risk for CLP: 1,561,695 Pre-50 Housing Units; 35.7% Pre-50 Housing
1,056 Children Identified with Blood Lead Levels ≥20 µg/dL in 1997

Program Description

Although direct CM services are provided by LHD professionals for EBL children, there is no state protocol for CM and no central oversight of CM activities done at the local level. State HD provides oversight ("medical CM") to ensure that EBL children return for re-screening, using computer-generated letters to health care providers and families. No Medicaid reimbursement, State or Federal support for CM activities. LHD supports PHN positions and lead is presently not a major priority in Ohio.

EI at 15. EI provided by state and designated local health departments, via state licensed investigators. EI funded by Medicaid reimbursement and CDC lead grant. Written protocol. Comprehensive EI with all components available as necessary.

Key Indicators on Case Management and Environmental Investigation

✓	Tracking System For Blood Lead Levels	✓	State Oversight of CM Service Delivery
	Protocol For Case Management		State or Local Programs Know CM Costs
	Medicaid Reimbursement for Case Management	✓	Qualifications For Investigators
✓	Home Visit Included in Case Management	✓	Protocol For Environmental Investigation
	Written Communication w/Health Care Provider	✓	Dust Testing As Part Of Comprehensive Investigation
*	Comprehensive Organization of CM Services	✓	Medicaid Reimbursement for Env. Investigation
✓	CM Close-Out Criteria		Data On Results Of Investigation

OKLAHOMA

CDC Grantee: Yes/Surveillance State Law on Screening or Follow-up: Yes
Predictors of Risk for CLP: 298,347 Pre-50 Housing Units; 21.2% Pre-50 Housing
No Response: Children Identified with Blood Lead Levels ≥20 μg/dL in 1997

Program Description

LHD professionals provide CM services under oversight of state HD. State protocol for CM in place. Title V funding. No Medicaid reimbursement. CM supported by federal funding.

EI at 20. EI provided by HD staff or occasionally Indian Health Service. EPA standards for non-HD personnel. EI funded by Title V MCH block grant. No Medicaid reimbursement. Guidelines, but no written protocol. Comprehensive EI; no XRF.

Key Indicators on Case Management and Environmental Investigation

✓	Tracking System For Blood Lead Levels
✓	Protocol For Case Management
	Medicaid Reimbursement for Case Management
✓	Home Visit Included in Case Management
✓	Written Communication w/Health Care Provider
✓	Comprehensive Organization of CM Services
✓	CM Close-Out Criteria

	State Oversight of CM Service Delivery
	State or Local Programs Know CM Costs
✓	Qualifications For Investigators
	Protocol For Environmental Investigation
✓	Dust Testing As Part Of Comprehensive Investigation
	Medicaid Reimbursement for Env. Investigation
	Data On Results Of Investigation

OREGON

CDC Grantee: Yes/Surveillance State Law on Screening or Follow-up: No
Predictors of Risk for CLP: 316,648 Pre-50 Housing Units; 26.5% Pre-50 Housing
16 Children Identified with Blood Lead Levels ≥20 μg/dL in 1997

Program Description

LHD professionals provide CM services under oversight of the State HD. No Medicaid reimbursement. Existence of state protocol for case management unknown. CM supported by state funding.

EI at 20. EI provided by county health departments. EI funded by county health departments. No Medicaid reimbursement. Written protocol. Comprehensive EI; no XRF.

Key Indicators on Case Management and Environmental Investigation

✓	Tracking System For Blood Lead Levels
	Protocol For Case Management
	Medicaid Reimbursement for Case Management
✓	Home Visit Included in Case Management
✓	Written Communication w/Health Care Provider
	Comprehensive Organization of CM Services
✓	CM Close-Out Criteria

✓	State Oversight of CM Service Delivery
	State or Local Programs Know CM Costs
	Qualifications For Investigators
✓	Protocol For Environmental Investigation
✓	Dust Testing As Part Of Comprehensive Investigation
	Medicaid Reimbursement for Env. Investigation
✓	Data On Results Of Investigation

PENNSYLVANIA

CDC Grantee: Yes/CLPPP State Law on Screening or Follow-up: No
Predictors of Risk for CLP: 2,213,386 Pre-50 Housing Units; 44.8% Pre-50 Housing
6,242 Children Identified with Blood Lead Levels ≥20 µg/dL in 1997

Program Description

CM done by LHDs and private providers under contract to LHD and to MCOs. Although Medicaid reimbursement is theoretically available, through 1998 no Medicaid funds had been received for CM. Medicaid CM is defined very narrowly. CM services only provided for children on Medicaid fee for service; no CM services are provided for children in Medicaid Managed Care. Consequently, only about 1/3 of children w/BLLs >20 are known to have received CM services. State protocol in place.

EI at 20 or persistent 15 - 19. EI performed by private, state-certified inspectors under contract to State HD. EI funded by CDC grant, Medicaid reimbursement, MCH block grant, and private MCOs. Protocols vary by local CLPP. EI includes XRF, visual inspections, and questionnaire; dust wipe, water, and soil testing on a case-by-case basis; some include paint chip testing.

Key Indicators on Case Management and Environmental Investigation

*	Tracking System For Blood Lead Levels
✓	Protocol For Case Management
✓	Medicaid Reimbursement for Case Management
✓	Home Visit Included in Case Management
✓	Written Communication w/Health Care Provider
*	Comprehensive Organization of CM Services
✓	CM Close-Out Criteria

	State Oversight of CM Service Delivery
✓	State or Local Programs Know CM Costs
✓	Qualifications For Investigators
✓	Protocol For Environmental Investigation
✓	Dust Testing As Part Of Comprehensive Investigation
✓	Medicaid Reimbursement for Env. Investigation
✓	Data On Results Of Investigation

RHODE ISLAND

CDC Grantee: Yes/CLPPP State Law on Screening or Follow-up: Yes
Predictors of Risk for CLP: 181,215 Pre-50 Housing Units; 43.7% Pre-50 Housing
431 Children Identified with Blood Lead Levels ≥20 µg/dL in 1997

Program Description

Two tracks: Medicaid and privately insured children provided with CM services by Lead Centers (a new entity), others by LHDs. No state protocol. Fee structure funds minimum of 8 months of follow-up visits, including reimbursement for opening and closing a case. Based on allowable fees, reimbursement would equal or exceed $1,610/case.

EI at 20. Initial EI performed by private, state-certified inspectors under contract to HD; compliance inspections done by HD inspector. EI funded by state funds, Medicaid reimbursement, CDC lead grants, and HUD lead grants. Protocol established in regulation. Comprehensive EI. Note: recent HCFA approval of innovative program to use Medicaid reimbursement for window replacement in homes of lead-poisoned children.

Key Indicators on Case Management and Environmental Investigation

✓	Tracking System For Blood Lead Levels
	Protocol For Case Management
✓	Medicaid Reimbursement for Case Management
✓	Home Visit Included in Case Management
✓	Written Communication w/Health Care Provider
*	Comprehensive Organization of CM Services
	CM Close-Out Criteria

	State Oversight of CM Service Delivery
✓	State or Local Programs Know CM Costs
✓	Qualifications For Investigators
✓	Protocol For Environmental Investigation
✓	Dust Testing As Part Of Comprehensive Investigation
✓	Medicaid Reimbursement for Env. Investigation
✓	Data On Results Of Investigation

SOUTH CAROLINA

CDC Grantee: Yes/CLPPP State Law on Screening or Follow-up: Yes
Predictors of Risk for CLP: 218,781Pre-50 Housing Units; 15.4% Pre-50 Housing
250 Children Identified with Blood Lead Levels ≥20 μg/dL in 1997

Program Description

Medicaid reimbursement provided for initial and follow-up CM home visits done by LHD staff. Reimbursement rate is $60/hour. Refers all children to Early Intervention and Head Start. Primary source of funding for CM is federal.

EI at 15. EI performed by health department staff. EI funded by CDC lead grant. No Medicaid reimbursement. No written protocol. Comprehensive EI w/all but water testing.

Key Indicators on Case Management and Environmental Investigation

✓	Tracking System For Blood Lead Levels
✓	Protocol For Case Management
✓	Medicaid Reimbursement for Case Management
✓	Home Visit Included in Case Management
	Written Communication w/Health Care Provider
✓	Comprehensive Organization of CM Services
✓	CM Close-Out Criteria

✓	State Oversight of CM Service Delivery
	State or Local Programs Know CM Costs
	Qualifications For Investigators
	Protocol For Environmental Investigation
✓	Dust Testing As Part Of Comprehensive Investigation
	Medicaid Reimbursement for Env. Investigation
✓	Data On Results Of Investigation

SOUTH DAKOTA

CDC Grantee: No State Law on Screening or Follow-up: No
Predictors of Risk for CLP: 107,374 Pre-50 Housing Units; 36.7% Pre-50 Housing
No Response: Children Identified with Blood Lead Levels ≥20 μg/dL in 1997

Program Description

No CM services are provided. State has no information on the number of children with EBLs. Child's health care provider delivers whatever education and follow-up is done. HD provides technical assistance and referral at private provider's request. No state protocol for CM.

EI at 20. EI performed by health department staff. No funding for EI identified. No Medicaid reimbursement. No written protocol. EI includes paint chip, visual inspections, water, and soil testing. Just 1 case reported in last year.

Key Indicators on Case Management and Environmental Investigation

*	Tracking System For Blood Lead Levels
	Protocol For Case Management
	Medicaid Reimbursement for Case Management
	Home Visit Included in Case Management
	Written Communication w/Health Care Provider
	Comprehensive Organization of CM Services
	CM Close-Out Criteria

	State Oversight of CM Service Delivery
	State or Local Programs Know CM Costs
	Qualifications For Investigators
	Protocol For Environmental Investigation
	Dust Testing As Part Of Comprehensive Investigation
	Medicaid Reimbursement for Env. Investigation
	Data On Results Of Investigation

TENNESSEE

CDC Grantee: No State Law on Screening or Follow-up: No
Predictors of Risk for CLP: 380,068 Pre-50 Housing Units; 18.8% Pre-50 Housing
259 Children Identified with Blood Lead Levels ≥20 μg/dL in 1997

Program Description

No state protocol for CM. LHD professional staff provide CM services. EBL children enrolled in Medicaid MCO only receive services if primary care provider (PCP) refers for CM and EI and pays for both services out of PCP's capitation fee. Most PCPs do not refer to HD for EI; only LHDs which are also PCP refer for CM. No oversight for cases where PCP will not refer for CM or EI; minimal state oversight for cases where LHD follows due to loss of CDC funding.

EI at 20. EI performed by trained (not certified) health department staff. EI currently funded by transitional funding from CDC; Tennessee lost its CDC CLPP grant last year. Although Medicaid reimbursement is possible with prior authorization of PCP, actual reimbursement from MCOs is negligible. Written protocol. Comprehensive EI but dust testing and XRF only done if indicated.

Key Indicators on Case Management and Environmental Investigation

✓	Tracking System For Blood Lead Levels
	Protocol For Case Management
✓	Medicaid Reimbursement for Case Management
✓	Home Visit Included in Case Management
	Written Communication w/Health Care Provider
✓	Comprehensive Organization of CM Services
✓	CM Close-Out Criteria

	State Oversight of CM Service Delivery
	State or Local Programs Know CM Costs
✓	Qualifications For Investigators
✓	Protocol For Environmental Investigation
	Dust Testing As Part Of Comprehensive Investigation
✓	Medicaid Reimbursement for Env. Investigation
	Data On Results Of Investigation

TEXAS

CDC Grantee: Yes/Surveillance State Law on Screening or Follow-up: NR
Predictors of Risk for CLP: 1,008,475 Pre-50 Housing Units; 14.1% Pre-50 Housing
1,107 Children Identified with Blood Lead Levels ≥20 μg/dL in 1997

Program Description

No state CLPPP, no oversight of LHDs or state protocols. All services provided at the LHD level. Medicaid reimburses up to 5 visits with prior authorization needed. Also Title V reimbursement for infants < 1 year of age.

EI at 20. EI provided by local HD using state-certified risk assessors. EI funded by state general revenue funds. No Medicaid reimbursement. Protocol currently being revised. Comprehensive EI w/all but questionnaire.

Key Indicators on Case Management and Environmental Investigation

✓	Tracking System For Blood Lead Levels
✓	Protocol For Case Management
✓	Medicaid Reimbursement for Case Management
✓	Home Visit Included in Case Management
	Written Communication w/Health Care Provider
✓	Comprehensive Organization of CM Services
	CM Close-Out Criteria

	State Oversight of CM Service Delivery
✓	State or Local Programs Know CM Costs
✓	Qualifications For Investigators
✓	Protocol For Environmental Investigation
✓	Dust Testing As Part Of Comprehensive Investigation
	Medicaid Reimbursement for Env. Investigation
✓	Data On Results Of Investigation

UTAH

CDC Grantee: Yes/Surveillance State Law on Screening or Follow-up: No
Predictors of Risk for CLP: 127,266 Pre-50 Housing Units; 21.3% Pre-50 Housing
16 Children Identified with Blood Lead Levels ≥20 μg/dL in 1997

Program Description

LHDs and private providers under contract to MCOs provide CM services. No reimbursement by MA. CM services supported by state and local funds except in Salt Lake City. No state CM protocols or oversight but surveillance program refers cases to LHD.

EI at 15. EI provided by local health departments using state-certified investigators. EI funded by local health departments and state EPA grant. No Medicaid reimbursement. Protocol status unclear. Initial lead investigation using visual inspections and questionnaire is used to determine need for further testing, which may include XRF, dust wipe, soil, or paint chip sampling.

Key Indicators on Case Management and Environmental Investigation

✓	Tracking System For Blood Lead Levels
	Protocol For Case Management
	Medicaid Reimbursement for Case Management
✓	Home Visit Included in Case Management
	Written Communication w/Health Care Provider
✓	Comprehensive Organization of CM Services
	CM Close-Out Criteria

	State Oversight of CM Service Delivery
	State or Local Programs Know CM Costs
✓	Qualifications For Investigators
	Protocol For Environmental Investigation
	Dust Testing As Part Of Comprehensive Investigation
	Medicaid Reimbursement for Env. Investigation
✓	Data On Results Of Investigation

VERMONT

CDC Grantee: Yes/CLPPP State Law on Screening or Follow-up: No
Predictors of Risk for CLP: 109,780 Pre-50 Housing Units; 40.5% Pre-50 Housing
42 Children Identified with Blood Lead Levels ≥20 μg/dL in 1997

Program Description

CM done by environmental investigator and health educator following state protocol. Medicaid reimbursement being sought; staff are tracking time and developing cost estimates now.

EI at 20. EI provided by health department using state-licensed lead inspectors/risk assessors. EI funded by CDC lead grant at present. Medicaid reimbursement approved; about to start billing. Protocol in place. Comprehensive EI.

Key Indicators on Case Management and Environmental Investigation

✓	Tracking System For Blood Lead Levels
✓	Protocol For Case Management
✓	Medicaid Reimbursement for Case Management
✓	Home Visit Included in Case Management
✓	Written Communication w/Health Care Provider
*	Comprehensive Organization of CM Services
✓	CM Close-Out Criteria

✓	State Oversight of CM Service Delivery
✓	State or Local Programs Know CM Costs
✓	Qualifications For Investigators
✓	Protocol For Environmental Investigation
✓	Dust Testing As Part Of Comprehensive Investigation
✓	Medicaid Reimbursement for Env. Investigation
	Data On Results Of Investigation

VIRGINIA

CDC Grantee: Yes/CLPPP State Law on Screening or Follow-up: No
Predictors of Risk for CLP: 481,679 Pre-50 Housing Units; 19.3% Pre-50 Housing
205 Children Identified with Blood Lead Levels ≥20 µg/dL in 1997

Program Description

CM services provided by LHD staff and include referral for developmental assessment. No Medicaid reimbursement for CM. State protocol in place. Only have information on sub-grantee sites, not entire state. Oversight provided to sub-grantees.

EI at 20 or 2 consecutive 15 - 19. EI provided by health department, using state certified personnel. EI funded by CDC lead grant, state/local health dept cooperative budget, and Medicaid reimbursement. Protocol is Chapter 16 of HUD Guidelines. Comprehensive EI.

Key Indicators on Case Management and Environmental Investigation

*	Tracking System For Blood Lead Levels
✓	Protocol For Case Management
	Medicaid Reimbursement for Case Management
✓	Home Visit Included in Case Management
✓	Written Communication w/Health Care Provider
*	Comprehensive Organization of CM Services
✓	CM Close-Out Criteria

	State Oversight of CM Service Delivery
✓	State or Local Programs Know CM Costs
✓	Qualifications For Investigators
✓	Protocol For Environmental Investigation
✓	Dust Testing As Part Of Comprehensive Investigation
✓	Medicaid Reimbursement for Env. Investigation
✓	Data On Results Of Investigation

WASHINGTON

CDC Grantee: Yes/Surveillance State Law on Screening or Follow-up: No
Predictors of Risk for CLP: 500,808 Pre-50 Housing Units; 24.6% Pre-50 Housing
16 Children Identified with Blood Lead Levels ≥20 µg/dL in 1997

Program Description

CM services provided by LHD staff. No Medicaid reimbursement for CM. No state protocol.

EI at 15. EI performed by health department staff. EI funded by CDC and local health department No Medicaid reimbursement. No protool. EI includes XRF, visual inspections, water and soil testing, questionnaire, and vacuum floor dust sample; no paint chip or dust wipe samples.

Key Indicators on Case Management and Environmental Investigation

✓	Tracking System For Blood Lead Levels
	Protocol For Case Management
	Medicaid Reimbursement for Case Management
✓	Home Visit Included in Case Management
	Written Communication w/Health Care Provider
	Comprehensive Organization of CM Services
✓	CM Close-Out Criteria

✓	State Oversight of CM Service Delivery
	State or Local Programs Know CM Costs
	Qualifications For Investigators
	Protocol For Environmental Investigation
✓	Dust Testing As Part Of Comprehensive Investigation
	Medicaid Reimbursement for Env. Investigation
✓	Data On Results Of Investigation

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WEST VIRGINIA

CDC Grantee: Yes/CLPPP State Law on Screening or Follow-up: No
Predictors of Risk for CLP: 270,411 Pre-50 Housing Units; 34.6% Pre-50 Housing
44 Children Identified with Blood Lead Levels ≥20 μg/dL in 1997

Program Description

Provides CM to all children with BLL≥20 through state or LHD professionals. Refers all children with BLL≥ 15 for Early Intervention ("Children's Specialty Care Coordination"). No Medicaid reimbursement. State has set up mechanism to fund LHDs for 3 visits using CDC funds ($120 initial, $60 follow-up, $30 third visit).

EI at 2 > 15 or 20. EI performed by health department staff. EI funded by CDC lead grant and Medicaid reimbursement. Protocol in place. Comprehensive EI, but no questionnaire.

Key Indicators on Case Management and Environmental Investigation

✓	Tracking System For Blood Lead Levels	✓	State Oversight of CM Service Delivery
✓	Protocol For Case Management	✓	State or Local Programs Know CM Costs
	Medicaid Reimbursement for Case Management		Qualifications For Investigators
✓	Home Visit Included in Case Management	✓	Protocol For Environmental Investigation
✓	Written Communication w/Health Care Provider		Dust Testing As Part Of Comprehensive Investigation
✓	Comprehensive Organization of CM Services	✓	Medicaid Reimbursement for Env. Investigation
✓	CM Close-Out Criteria		Data On Results Of Investigation

WISCONSIN

CDC Grantee: Yes/CLPPP State Law on Screening or Follow-up: Yes
Predictors of Risk for CLP: 757,204 Pre-50 Housing Units; 36.8% Pre-50 Housing
1,526 Children Identified with Blood Lead Levels ≥20 μg/dL in 1997

Program Description

LHD PHNs provide CM services with oversight by State HD. State protocol for CM in place. Medicaid reimbursement available for one "nursing education visit" only. Has General fund revenue apportioned to LHDs based on risk factors within the local jurisdiction, including: number of cases (≥20), # children with EBL (10-19), # high risk children <6. State provides funding to LHDs to be used for: CM for children with BLLs ≥ 20, follow-up for 10-19, certification of staff, cost of interpreters, and other money with use to be determined locally. Annual report includes statistics on CM including where child was screened, exposure source, location of lead in child's home, year of housing construction, ownership, reasons for case closure.

EI trigger varies, usually 20, some 15-19. EI performed by local health departments using state-certified lead risk assessors. EI funded by state funds, Medicaid reimbursement, and CDC grant in Milwaukee. Protocol in place. Comprehensive EI.

Key Indicators on Case Management and Environmental Investigation

*	Tracking System For Blood Lead Levels	✓	State Oversight of CM Service Delivery
✓	Protocol For Case Management	✓	State or Local Programs Know CM Costs
✓	Medicaid Reimbursement for Case Management	✓	Qualifications For Investigators
✓	Home Visit Included in Case Management	✓	Protocol For Environmental Investigation
✓	Written Communication w/Health Care Provider	✓	Dust Testing As Part Of Comprehensive Investigation
✓	Comprehensive Organization of CM Services	✓	Medicaid Reimbursement for Env. Investigation
✓	CM Close-Out Criteria	✓	Data On Results Of Investigation

WYOMING

CDC Grantee: Yes/Surveillance State Law on Screening or Follow-up: No
Predictors of Risk for CLP: 48,254 Pre-50 Housing Units; 23.7 % Pre-50 Housing
20 Children Identified with Blood Lead Levels ≥20 μg/dL in 1997

Program Description

LHD professionals provide CM services under oversight by State HD. No state protocol. No Medicaid reimbursement for CM activities. Program receives funding support from State Agriculture agency funds.

EI at 15. EI performed by local health departments or state Agriculture agency without charge. Lead inspector/risk assessor training required. State HD provides XRF and pays for lab analysis. No Medicaid reimbursement. Protocol is HUD Guidelines. Comprehensive EI w/no paint chip testing.

Key Indicators on Case Management and Environmental Investigation

✓	Tracking System For Blood Lead Levels
	Protocol For Case Management
	Medicaid Reimbursement for Case Management
✓	Home Visit Included in Case Management
✓	Written Communication w/Health Care Provider
✓	Comprehensive Organization of CM Services
✓	CM Close-Out Criteria

✓	State Oversight of CM Service Delivery
	State or Local Programs Know CM Costs
✓	Qualifications For Investigators
✓	Protocol For Environmental Investigation
✓	Dust Testing As Part Of Comprehensive Investigation
	Medicaid Reimbursement for Env. Investigation
✓	Data On Results Of Investigation

CHAPTER 9
SUMMARY AND RECOMMENDATIONS

This section presents the recommendations of the Alliance To End Childhood Lead Poisoning and the National Center for Lead-Safe Housing for improving the quality and consistency of case management and environmental investigation services provided to lead-poisoned children.

In reviewing the survey responses, we were gratified by the hard work and ingenuity of people working in lead poisoning prevention programs, health departments, and other settings to help lead-poisoned children. In many cases, it is remarkable what state and local lead programs or health departments have been able to accomplish with scarce resources and frequently inadequate support. One measure of this commitment and dedication is the fact that we received responses from every state — a remarkable return for any survey. We were also impressed with the number of states that have already incorporated dust testing into their environmental investigation protocols; we had not expected this relatively new tool to already be so widely adopted, an encouraging indication that programs are examining and changing their practices based on emerging research and experience.

At the same time, the case management and environmental investigation services that states are providing are widely mixed and there is clearly room for improvement in most states. For example, few states are collecting thorough data documenting the services being provided and the health and environmental outcomes achieved, which has multiple ramifications. In many other technical, programmatic, and policy areas, there are a host of improvements that should be made. In terms of funding program operations, it was surprising and disappointing to find more than half the states failing to collect Medicaid reimbursement for case management and environmental investigation — an important untapped funding source. We hope that these recommendations will help to focus discussion and catalyze change at many levels: federal, state, and local.

I. INITIATING SERVICES

State Blood Lead Reporting Systems

Central reporting of elevated blood lead levels is critical to ensuring timely follow-up care for lead-poisoned children. Although nearly all

(47) states have a reporting system for blood lead levels, the systems vary considerably. Some require laboratory reporting of all blood lead levels, others only require elevated levels to be reported. Some states require reporting by health care providers, and others by laboratories. However, at least 10 states report that their reporting systems are not fully functional for timely referral of children needing follow-up services (sometimes because they are still implementing new legislation). Maintaining a central reporting system is a complex task, involving a combination of computer hardware and software, technical expertise, and good relationships with reporting entities, primarily blood lead laboratories. The extent and accuracy of reporting directly impacts the degree to which lead-poisoned children can be successfully identified for follow-up.

Additionally, despite the existence of CDC's lead surveillance grant program, there are no national recommendations for reporting blood lead levels, which has created a burden on private laboratories that must report this information to many different states in a variety of formats. Many states are interested in improving compliance with reporting requirements by decreasing the reporting burden on the private sector and have indicated that they would comply with national recommendations. States also report that the existence of national recommendations would help them obtain needed changes in state statute or regulation. (The variation in state reporting systems has also made it difficult to use state blood lead reporting data or CDC grantee reports to assess and compare lead poisoning prevalence rates across states.)

Recommendations:

- CDC should establish national standards for blood lead reporting to ensure standardization of blood lead data and enable timely follow-up for lead-poisoned children. In developing such standards, CDC should factor in the realities of the managed care delivery systems and office-based blood lead screening analyzers, and draw on the relevant experience of other CDC programs. The standards should also permit states to track insurance status (especially Medicaid enrollment) to ensure adequate follow-up and to monitor screening and prevalence rates.
- CDC should require that its grantees comply with national reporting standards as a condition of funding. Until such standards are in place, CDC should ensure that all its lead grantees have operational reporting systems.
- States with blood lead reporting systems should evaluate the effectiveness of their systems in triggering prompt identification and follow-up of lead-poisoned children, and address any identified deficiencies.

- States without a central reporting system for blood lead levels should establish one as soon as possible.

Blood Lead Levels At Which Services Are Provided

CDC's 1997 guidance recommends that both case management and environmental investigation be provided at blood lead levels of 20 µg/dL or persistent levels of 15-19 µg/dL. Encouragingly, most states are providing services to children at or even below the blood lead thresholds recommended by CDC.

For environmental investigation, 13 states are using CDC's recommended trigger for environmental investigation and 13 states are able to be more aggressive, offering the service at lower levels. 20 states perform environmental investigation only at blood lead levels of 20 µg/dL (not persistent levels above 15). Just 2 states use a trigger of 25 µg/dL. Since environmental investigation permits the identification and subsequent control of lead hazards, early hazard identification by providing environmental investigation at lower blood lead levels is a positive preventive measure. Map 9-1 on page 120 presents state compliance with CDC recommendations for blood lead levels at which environmental investigation should be provided.

In contrast, states sometimes vary the scope of case management services by blood lead level, providing less intensive services at lower blood lead levels in order to intervene before blood lead levels rise. Thus, it is not surprising that many states report offering case management at lower blood lead levels than recommended by CDC. Six states offer case management at precisely the level recommended by CDC, and 28 states offer the service at lower levels (single levels above 15 µg/dL or 10 µg/dL). Fourteen states provide case management at blood lead levels of 20 µg/dL (not persistent levels above 15 µg/dL). Map 9-2 on page 121 presents state compliance with CDC recommendations for blood lead levels at which case management should be provided.

These varied criteria for services mean that children with similar lead exposure in different states and localities receive markedly different responses. It seems that most programs determine the blood lead threshold for services on the basis of the resources available. Many programs indicate that they would like to provide services to children at lower blood lead levels, in order to have a greater preventive impact, but limited resources demand a more limited policy. However, it is important to ensure that policies are not so generous that limited resources are stretched too thin to provide good quality services to children in greatest need, especially for case management due to its resource-intensive and potentially open-ended nature.

Recommendation:

- At a minimum, states should provide case management and environmental investigation to children at the levels recommended by CDC, and, resources permitting, preventive services and environmental investigation to as many children as possible with blood lead elevations at or above 10 μg/dL.

II. SETTING STANDARDS FOR SERVICES

Standards for Case Management

Need for Case Management Standards

In recent years, there have been no national standards for case management of lead-poisoned children. In fact, there is some genuine confusion about what the term "case management" means for lead poisoning. Naturally, this has created variation in approach across the country, and made achieving reimbursement from Medicaid and other insurers more difficult. This confusion must be dispelled in order to clarify roles, develop standards, and help state and local programs secure reimbursement for case management services.

The lack of nationally recognized standards is reflected by the fact that only 29 state programs indicated they had written standards for case management. However, a consensus document *Case Management for Childhood Lead Poisoning* describing professional standards for the basic elements of case management for lead-poisoned children already serves as a guide for some state and local programs. These standards were developed by the National Center for Lead-Safe Housing in conjunction with staff of CDC, several clinical providers, and 34 individuals from 18 state and local programs. They have been circulated for broad review by public health and clinical lead experts, and are presently undergoing final revisions. To provide additional context and supporting data, the document also includes a history of case management practice and a review of the literature on the effectiveness of case management.

A 1998 document *Coordinating Care from Clinic to Community: Quality Standards for Serving Children and Families Affected by Environmental Lead Hazards* by New England SERVE describes standards for familycentered systems of care for lead-poisoned children. In addition, a subcommittee of CDC's Advisory Committee on Childhood Lead Poisoning Prevention is currently evaluating the scientific basis for case management and treatment practices, so as to develop a set of evidence-based standards that can be issued by the Committee.

Almost all states (46) currently use professional-level staff to provide case management, suggesting that they recognize the complex nature of the work. In addition, case management is reimbursable by Medicaid only when provided by a professional (registered nurse or social worker), although ancillary services can be reimbursed if provided under the supervision of a professional case manager. The apparent consensus on the need for professional-level staff should thus be reflected in any set of standards.

Recommendation:

- All states should have in place a protocol that identifies minimum standards for initiation, performance, and tracking of case management services for lead-poisoned children, including standards for data collection and outcome measurements. In addition, case management standards should require professional level staffing and oversight, due to the complex nature of case management services and to qualify for Medicaid reimbursement
- CDC or its Advisory Committee on Childhood Lead Poisoning Prevention should endorse a set of national standards for case management for lead-poisoned children, beginning with a definition of the term case management. The consensus standards developed by the National Center for Lead-Safe Housing offer a thorough, current, and complete set of expert standards for quick review and endorsement.
- Once national standards are in place, state protocols should be reviewed for consistency. In the interim, states should utilize written protocols specifying the services to be provided along with performance standards and record-keeping criteria.

Key Elements of Case Management Standards

In addition to the need for a comprehensive protocol for case management services, the survey identified three key elements of case management that merit particular attention.

Number of Home Visits: Although most states (43) provide home visits as part of a package of basic case management services, practice varies considerably across the states. Due to limited resources and funding restrictions, many programs make only one home visit. A single visit may be adequate for the purpose of assessment, but is highly unlikely to be sufficient for ensuring that steps are taken to improve the health status of the child. Most families with multiple problems identified are likely to require multiple visits (commonly up to 5) to ensure that action is taken to protect the child and reduce exposure to lead hazards.

Recommendation:

- Case management standards should include a minimum of two case management visits to the home of a lead-poisoned child.

Assessment for WIC Status: As part of the assessment process, most case managers assess conditions visually, assess lead exposures by history, and assess the family's understanding of the problem. But almost one-third (29%) of programs fail to inquire about a lead-poisoned child's WIC status. Given the importance of good nutrition for lead-poisoned children, the documented benefits of WIC enrollment, and the high rates of WIC eligibility among lead-poisoned children, such assessment (and subsequent referrals to WIC) should be a routine part of assessing lead-poisoned children.

Recommendation:

- State case management protocols should include standards for assessment, specifically including assessment of WIC status.

Family Involvement: Because they are an essential part of the solution, families should be seen as full partners on a team that responds to the needs of lead-poisoned children and systematically involved in all aspects of the case management process. Yet, our survey found that more than one-third of state programs (37%) fail to include families in the planning process. In addition, only one state program indicated that it routinely refers families to parent support groups in the community. Experience has shown that engaging families in the design of a response plan increases the likelihood of success.

Recommendation:

- State programs should evaluate the extent to which families are being involved in case management and make necessary program modifications to ensure that families are fully involved in planning, implementation, and evaluation efforts. In addition, states should examine their referral practices to ensure that parents of lead-poisoned children are routinely referred to available resources, including community-based parent support groups, where they exist, in order to connect families with another source of support and assistance.

Criteria for Case Closure

The indefinite continuation of cases is a sign of weak case management. Yet 14 states reported that they had no criteria for when to close a case. All states should have clear-cut criteria to close a case that includes a minimum of three elements: reduction in a child's blood lead level; control of environmental lead hazards in the child's environment (both emergency and long term interventions); and, provisions for administrative closure in the event that a family moves, cannot be located, or refuses further services.

Recommendations:

- All state should have case closure criteria that encompass reduction in a child's blood lead level and control of environmental lead hazards and provide for administrative closure when needed.
- States that routinely follow children until 6 years of age should evaluate whether such a lengthy follow-up benefits the child and family.

Interventions Provided As Part of Case Management

Again, due to the lack of clear standards, the specific interventions to improve the health status of the child that are provided by case management programs vary considerably across the country. Nearly all states provide some type of educational intervention, including education focused on lead and lead exposure risks, lead-specific cleaning practices, and nutritional counseling. Two-thirds of state programs (67%) provide assistance with referrals to other necessary services and 80% provide follow-up of identified problems. Six state programs indicate that they now refer young children routinely to Early Intervention programs for identification and treatment of possible developmental problems.

Surprisingly, ten states provide specialized cleaning services as part of their case management interventions. However, due to funding considerations, most of these states are not able to make cleaning available except in designated target areas and under special circumstances. Specialized cleaning has been documented to reduce lead dust hazards in homes (Rhodes, Ettinger, Weisel, et al, *The Effect of Dust Lead Control on Blood Lead in Toddlers*, Pediatrics 103:3, March 1999), and should be included as one of the emergency services provided to families with a lead-poisoned child, particularly in cases where the risks are high and the family cannot be easily or quickly moved into lead-safe housing.

Recommendation:

- Case management standards should include recommended interventions, including: basic educational interventions; referrals to Early Intervention services for developmental assessment, referral services for WIC, housing (emergency and long-term solutions), health care, and transportation, as needed; follow-up of identified problems as needed; and, follow-up to ensure that families receive needed services.

Standards for Environmental Investigation

Scope and Relevance of Environmental Investigation

State programs vary widely as to what activities constitute an environmental investigation to determine the source of lead exposure. Only 35 states have written protocols for environmental investigation. Where written protocols do exist, the scope of services and the kinds of data collected vary extensively. Some programs rely almost exclusively on XRF analysis to test the lead content of paint, and interpret a positive reading for the presence of lead-based paint as source identification. Other programs focus on current pathways of exposure by taking dust wipe and paint chip samples, assessing paint condition, and in some cases evaluating exposures from bare soil and drinking water. And, still other programs operate on a case-by-case basis.

Research over the past five years has found paint condition and dust lead levels on floors and other surfaces to be stronger predictors of risk than paint's lead content. There is growing evidence of the significance of exposure to lead dust on floors and other surfaces at levels previously considered safe. Detection of the presence of lead-based paint does not necessarily mean that this is the source of the child's lead exposure. For example, interior lead dust hazards can also be due to "track-in" of lead-contaminated soil.

Many program staff express frustration that environmental investigations frequently do not result in any corrective action. The ultimate measure of the success of an environmental investigation is the action that results to control lead hazards to reduce the child's continued lead exposure. At the extreme, conducting a full environmental investigation is irrelevant if no measures to reduce lead exposure occur as a consequence.

Recommendations:

- States should have a written protocol identifying the components of an environmental investigation for a lead-poisoned child. Appropriate flexibility and customization based on specific case factors and local sources are legitimate and important elements.
- The protocol for environmental investigation should include routine collection of data on important pathways of exposure (particularly interior dust lead) and documentation of poor paint condition. The XRF analyzer should never be relied upon as the only tool for environmental investigation. Chapter 16 of HUD's *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing* provides the most comprehensive and current guidance for environmental investigations.
- State programs should begin using the more protective dust lead standards being proposed by EPA and HUD: no higher than 50 µg/square foot for floors and 250 µg/square foot for window sills.
- Environmental investigations need to generate "actionable" data to ensure that all lead hazards identified are controlled – the ultimate measure of effectiveness. In most states, improved systems are needed to document and track corrective actions to control lead hazards to help ensure that environmental investigations actually result in health benefits to children.

Qualifications for Investigators

Just 35 states had minimum requirements in place for those who perform environmental investigations for lead-poisoned children. The most frequent requirement was for either state-certified risk assessors or lead inspectors. Some state program staff expected this requirement to be imposed on them when EPA sets up "contractor certification" programs in states without currently approved programs.

It is vital that those performing environmental investigations be properly trained and qualified to evaluate important sources and pathways of exposure and to collect samples correctly. Training in the certified disciplines of risk assessor and lead inspector provides a core foundation of knowledge in XRF operation and residential hazard assessment as well as credentials that may be important in any legal proceedings. At the same time, additional training beyond these certified disciplines is needed, because the scope of the environmental investigation of a lead-poisoned child is much more comprehensive than a standard residential lead inspection, and somewhat broader than a risk assessment (e.g., needing to take into account such additional factors as ceramics, home remedies, "take-home" lead from the parent's workplace, possible exposure at day care, etc.).

Recommendations:

- Health department program staff performing an environmental investigation for a lead-poisoned child should be trained and certified as lead professionals. This will serve to increase professionalism in the field as well as give the results of the investigation greater standing if challenged in court.
- Individuals conducting environmental investigations need additional training to assess sources of lead exposure beyond the scope of the traditional HUD risk assessment. (This could be accomplished either through on-the-job training or additional classroom instruction.)
- When state or local programs or managed care organizations contract environmental investigations out to certified lead evaluators, it is important that they be charged with conducting a comprehensive evaluation of potential exposure sources as described in Chapter 16 of HUD's *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing.*

Post-Intervention Clearance Testing

The responses to our survey do not make it possible to determine the extent to which states are performing (or requiring) clearance testing after work has been done to respond to lead hazards identified in the home of a lead-poisoned child. Follow-up visits are essential to ensure that corrective measures were taken and lead safety precautions followed. Because lead-contaminated dust can be invisible to the naked eye, clearance dust tests are critical to ensure the effectiveness and safety of the corrective measures in the vast majority of situations. Post-activity dust tests should be taken after any paint repair or other projects that could generate lead-dust contamination.

Recommendation:

- State programs need to make clearance dust tests a routine check to confirm that lead dust hazards are not left behind after corrective measures are taken in the home of a lead-poisoned child.

Lead Hazard Control: Legal Authority and Resources

Although this survey was not able to quantify the extent to which state and local programs succeed in controlling hazards identified in home of a lead-poisoned child, many programs indicated that this is a major problem. The ability to address hazards at the state (and local) level is based on the legal authority to order treatment of an individual housing unit, on the degree to which funding is available to assist property owners in real financial need, and on political will to enforce existing laws or regulations. Twenty-eight states, more than 54%, do not have legal authority to order remediation of homes with identified lead hazards (although 11 of these states indicated that they do have authority in some local jurisdictions). However, many jurisdictions have merely a general public health "nuisance" authority, but not a lead-specific statute.

More than 40% of all states (22 state programs) indicate that no funding is available in their state to help property owners pay for even a portion of the necessary lead hazard control. Of the 26 states reporting that at least some funds are available for abatement or lead hazard control at the state or local level, more than 80% receive HUD grants. No state reported sufficient funds for lead hazard control. The lack of legal authority to order remediation coupled with the lack of resources to fund abatement and lead hazard control is a major stumbling block for lead poisoning prevention and treatment progress nationally.

Recommendation:

- States should consider the model legislative language reflecting the principles and recommended lead-safety standards of the National Task Force of Lead-Based Paint Hazard Reduction and Financing developed by the National Conference of State Legislatures.

III. FINANCING SERVICES

At the risk of being obvious, adequate funding is essential to delivering case management and environmental investigation services to lead-poisoned children. Most states patch together the funds for these services from a number of sources. In many cases, as in the case of Medicaid, funds may be accessible only through "reimbursement," a concept that some programs seemed to be confused about. Many state program staffs are not aware of how their programs actually receive funds for case management and environmental investigation services. At least 6 states provided different answers to the GAO than they provided to us on the question of state Medicaid policy for reimbursement of environmental investigations. GAO surveyed EPSDT agencies while we surveyed lead programs, but both should be expected to be able to accurately answer this question. Most states do not track what it costs to provide these services.

Twelve states use primarily state funds for case management. Thirty-two states use state (17) or local/county (15) funds for environmental investigation, relying on state and local health departments and other agency budgets. Twenty states seek and receive Medicaid reimbursement for case management, and 22 states report Medicaid reimbursement for environmental investigation, (although apparently slightly fewer are actually collecting Medicaid dollars at this time).

Twenty-two states are using CDC grant funds for environmental investigation. CDC has taken the position that its grant funds can and should be used to fill gaps in funding lead programs, including paying for environmental investigation, especially as Medicaid managed care is changing the public health landscape. At the same time, CDC has also encouraged its grantees to seek Medicaid reimbursement for environmental investigation, although this has not been required. CDC's funds are thus heavily used by its grantees, in some cases funding the full cost of environmental investigation.

States also relied on funds from federal block grants (especially the Preventive Health Services and Maternal and Child Health block grants), grants from the U.S. Environmental Protection Agency (EPA), and a few isolated other sources. California's system of fees imposed on lead-polluting industries is unique and frees the state from the need to rely on federal grants or state appropriations.

Need for Adequate Funding

The amounts reimbursed by Medicaid for both services vary dramatically from state to state, ranging from $38 to $490 for environmental investigation and from $25 for one educational visit to a maximum of $1,610 for 8 months of follow-up for case management. Although the set of services provided varies to some extent state-by-state, the actual cost of providing the services is unlikely to vary so widely.

Ideally, reimbursement should reflect the actual costs of service delivery. State and local programs cannot successfully bill Medicaid or managed care for services provided unless they can document the actual cost of providing those services. Successful local public health programs should not be penalized by reimbursement mechanisms that pay only part of the cost of delivering services. In state or local programs that are expected to be completely or significantly "self-funding" through reimbursement for services, inadequate reimbursement rates will eventually lead to deterioration in services.

It is also important to remember that case management and environmental investigation services are often complex and are never "free."

When done successfully, these are time- and personnel-intensive activities that engage the family and often enlist multiple other agencies to help the family take the steps necessary to protect their children. Public health programs and personnel often think of themselves as "different" from fee-for-service providers, because they may have the ability and resources to provide services to families in need. However, all state and local program staff must realize that public health resources are limited. Just as it is unrealistic to expect to pay bargain rates and get premium products, it is unrealistic to expect health departments to provide top-quality services without securing the necessary resources from all available sources.

Recommendations:

- State programs should determine and document the actual costs of providing case management and environmental investigation services.
- State lead programs should negotiate adequate reimbursement rates with the State Medicaid agency, based on documentation of the costs of providing services as recommended above.
- Based on current costs of service delivery, state and local programs should ensure that their budgets and funding requests seek the resources necessary to adequately manage their caseloads.
- States should consider billing private insurance providers for services provided to children enrolled in such plans.

Medicaid Reimbursement Issues

Availability of Medicaid Reimbursement

Twenty states currently seek and receive Medicaid reimbursement for case management, and 22 states report Medicaid reimbursement for environmental investigation, (although apparently slightly fewer are actually collecting Medicaid dollars at this time). Many northeast and New England states (Maine, New Hampshire, Connecticut, Massachusetts, New York) have not yet established mechanisms for Medicaid reimbursement for environmental investigation, a surprising finding given the maturity of their lead programs and the well-documented severity of childhood lead poisoning problems in these states. State use of Medicaid reimbursement for case management and environmental investigation is presented in Maps 9-3 and 9-4 on pages 122 and 123.

Funding sources and amounts reflect policy choices and priorities. States using state (or local) funds for environmental investigation or case management without receiving Medicaid reimbursement are effectively forgoing the federal match for state spending. In states with very low caseloads, this may not amount to a significant sum. However, in other states, the decision to forgo Medicaid reimbursement for environmental investigation and case management may be significant. Medicaid is an entitlement program, so federal reimbursement for these services is not capped (in sharp contrast to federal grants or state appropriations). By all rights, Medicaid should pay the costs of these medically necessary treatment services for enrolled children. In addition, by securing Medicaid reimbursement, states may be able to shift the state's share of costs to the Medicaid budget, rather than the limited funds designated for lead poisoning prevention or other public health functions.

Similarly, states that use CDC lead poisoning prevention grant funds for environmental investigation without securing Medicaid reimbursement should consider the opportunity costs. Since CDC grant funds are finite and scarce, the decision not to seek Medicaid reimbursement means forgoing other possible uses, such as initiatives targeted to primary prevention.

Recommendations:

- State Medicaid agencies that have not yet established mechanisms for Medicaid reimbursement for case management and environmental investigation should do so immediately.
- Health departments providing case management and environmental investigation should contact the Medicaid agency to ensure that reimbursement is available to public sector service providers, customized for the specific situation.
- CDC should require its CLPP grantees to pursue Medicaid reimbursement of case management and environmental investigation as a condition of funding.
- Medicaid should fund emergency services to reduce lead hazards for children with EBL, including lead dust removal and interim measures to immediately reduce hazards in the child's home. If the child's home can not be made safe, Medicaid should reimburse the cost of emergency relocations.

HCFA Limits on Scope of Reimbursement for Environmental Investigations

States following HUD Guidance for investigating the home of a lead-poisoned child are likely to need to conduct a number of specific laboratory tests, possibly including interior dust wipes, paint chips, soil, and drinking water. Yet a vital source of funding for environmental investigation has recently been restricted. In September 1998, HCFA erected a barrier to quality care when it "clarified" its policy on reimbursement for environmental investigation in its update to the State Medicaid Manual. HCFA's written policy now inappropriately prohibits reimbursement for the environmental sampling and analysis (such as measuring lead in dust, soil, and water) that is needed to investigate the source of lead poisoning in a poisoned child's home — and makes it impossible to achieve the essential purpose of environmental investigation. In effect, the new language limits coverage only to XRF analysis to determine the lead content of paint, which usually does not confirm the immediate exposure hazard or reveal what control action is needed to reduce exposure. By ignoring lead dust, the predominant pathway of lead exposure for young children, the new HCFA policy is out of step with current research, public health practice, and the expressed priorities of CDC, EPA, and HUD.

Unlike other childhood diseases, such as asthma, childhood lead poisoning is entirely a disease of environmental origin. Medicaid resources should be available to identify (diagnose) the intervention (treatment) necessary. The health needs of lead-poisoned children should be assessed independently of the "precedent" that might be set for other diseases.

Recommendation:

- HCFA should revise its guidance to permit Medicaid reimbursement for the costs of the laboratory samples necessary to determine the source of lead exposure in the home a lead-poisoned child.

State Medicaid Limits On Covering Multiple Investigations Per Child

Several states reported arbitrary limits on State Medicaid reimbursement for environmental investigation services, such as limiting payment to one investigation per child per lifetime. It appears that such limits on environmental investigation are arbitrary with no basis in medical necessity. At least for children identified as lead-poisoned through EPSDT, such limits would seem to be illegal, since the federal EPSDT statute entitles Medicaid children to all services medically necessary to respond to a condition identified during an EPSDT screen.

Recommendation:

- HCFA should disallow, and states should discontinue the use of, arbitrary limits on State Medicaid reimbursement for environmental investigation services unless they are shown to have a medical basis.

Data on Medicaid Enrollment

Only one-third of states could report how many or what percentage of their cases were even enrolled in Medicaid. This data gap is most discouraging. Those states that have Medicaid reimbursement ought to know which children are eligible in order to be able to get reimbursement. States that do not currently receive Medicaid reimbursement ought to be able to document the number of Medicaid-enrolled children receiving services in order to build a case for such reimbursement.

Recommendations:

- State programs should establish the administrative means necessary to track the insurance status (especially Medicaid enrollment) of lead-poisoned children receiving case management and environmental investigation services.
- CDC should require its CLPP and Surveillance grantees to pursue collection of data on the insurance status (especially Medicaid enrollment) of the children receiving case management and environmental investigation services.

Interaction with Medicaid Managed Care Organizations

In our survey, 38 states reported the enrollment of at least some Medicaid children into managed care plans. Only 24 of these reported that their state's contract(s) with managed care organizations (MCOs) contained any language about lead screening or treatment services. Most reported that the language dealt only with lead screening or generic EPSDT screening requirements.

One state reported a different problem with managed care. In that state, the key program elements are seemingly in place: environmental investigation is reimbursable by Medicaid; a reimbursement rate has been established; all Medicaid children are enrolled in MCOs; and, environmental investigation is supposed to be included in the capitation rate paid to the MCOs. However, when the health department bills the MCOs, the reimbursement is usually not forthcoming. Thus, the health department is providing these services without reimbursement, even though the state Medicaid funds have already been provided to the MCO.

Recommendations:

- State Medicaid contracts with MCOs should contain clear language describing the specific duties of the MCOs, making clear whether they are expected to deliver services, make referrals, or provide reimbursement to other agencies for services provided. States should address lead screening, diagnosis, treatment, and follow-up services explicitly, rather than relying on general language referencing EPSDT. States should familiarize themselves with and utilize the lead purchasing specifications for Medicaid managed care contracts that have been developed by the Center for Health Policy and Research at the George Washington University (available at "www.gwumc.edu/chpr"). Where such language has already been incorporated in contracts, it should be enforced.
- Where case management and environmental investigation are provided by public sector providers and Medicaid children are enrolled in capitated managed care plans, states should consider financing case management and environmental investigation through a "carve-out" to ensure that providers are reimbursed for their costs of providing services. A carve-out offers a realistic and simple alternative to expecting managed care organizations or their participating physicians to reimburse for these services out of their capitated fees.

IV. TRACKING AND EVALUATING SERVICES

Very few programs are tracking outcomes of children identified as lead poisoned. Most states count the number of home visits or completed environmental investigations, but very few monitor the outcomes for children and the corrective measures taken in those properties found to have poisoned a child. Tracking case management and environmental investigation activities by themselves are not enough. The ultimate measure of effectiveness is reducing the child's lead exposure and blood lead level.

Oversight of Case Management Service Delivery

Although most states count the number of children identified with elevated blood lead levels, very few monitor the delivery of case management services to individual children to ensure that such services are provided. In our survey, eight states did not know how many lead-poisoned children needing follow-up care had been identified in 1997 and 23 states did not know how many of their lead-poisoned children had actually received services. CDC does not currently require its grantees to track or report this outcome.

Oversight is needed to ensure that all children identified as lead-poisoned receive appropriate follow-up care, including case management and environmental investigation services. Only 15 states indicated that they provided such oversight now. Such oversight would be particularly useful in the 24 states that rely on providers outside the health department to provide case management services.

Recommendations:

- States should establish the administrative capacity at either the state or local level to track delivery of case management and environmental investigation services to lead-poisoned children, to track outcomes of interest for individual children, and to ensure that appropriate services are provided to lead-poisoned children.
- CDC should require its CLPP grantees to report on case management service delivery outcome measures in their required reports. Such reporting would help build capacity for tracking and begin to document the effectiveness of program follow-up efforts.

Results from Case Management

Case management should be expected to achieve measurable results in terms of decreasing exposure, decreasing blood lead levels and improving health of children and their families, particularly young siblings. Programs that visit families multiple times without reducing the child's blood lead level are failing and need to reevaluate their procedures. Case management programs should be expected to measure and report relevant outcome measures, including blood lead levels, reduction in environmental lead hazards, including the provision of emergency interventions, including cleaning, as well as relocation and abatement.

Recommendation:

- States should establish, collect, and report outcome measures for case management.

Results of Environmental Investigations

Only 13 states indicated that they collected and tabulated data on the identified source(s) of lead exposure from environmental investigations. This data gap is disappointing. First, it hampers training efforts for future investigators. Second, it hampers educating health care providers, parents, and policymakers about common lead sources in the community. Third, such data would be very useful for the development or revision of state lead screening plans, or possibly in the context of any future policies allowing "targeted" screening of children enrolled in Medicaid.

Recommendations:

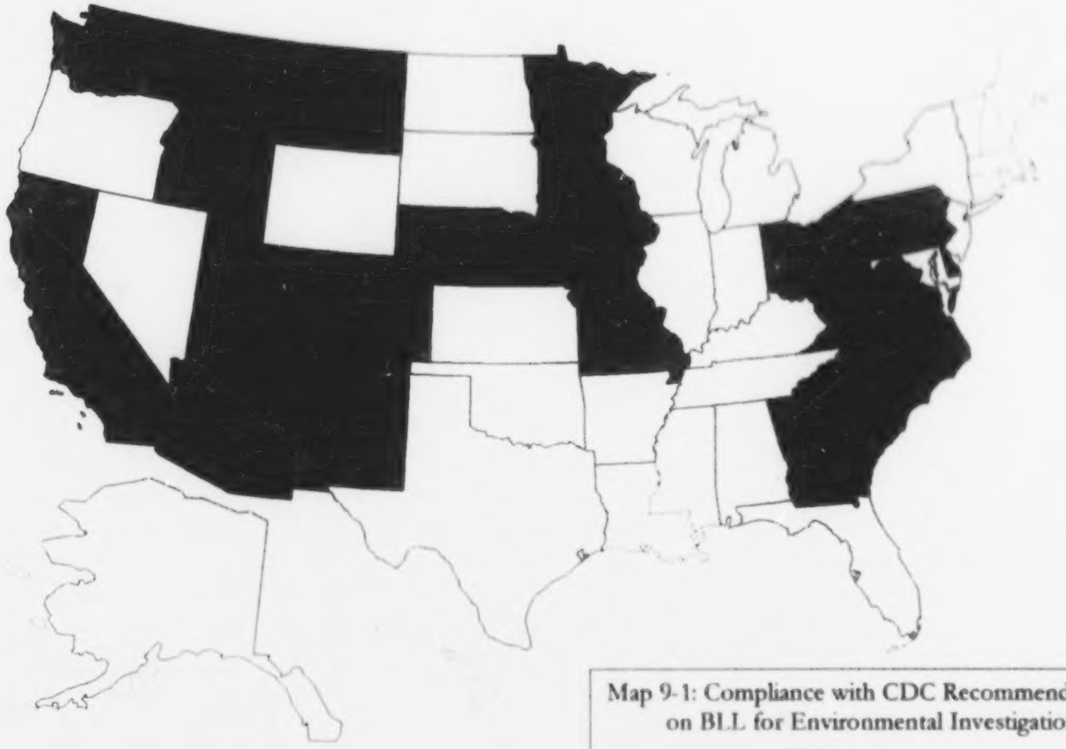
- All states should collect and aggregate data on lead sources, including the proximate cause(s) of lead exposure identified through environmental investigation, and the lead hazard control actions taken, along with relevant information allowing characterization of the lead hazards (e.g., age and condition of housing, renter or owner-occupied, source and pathway of exposure, etc.)
- CDC requires its grantees to provide data through its STELLAR database, but its data fields have proven to be limiting, especially for non-paint sources, and many grantees report that they are unhappy with STELLAR. CDC should consider moving to an alternative software package with greater flexibility and easily available support. Until CDC revises its requirements, states should use standard office database software to keep these records.

Need for Program Evaluation

Case management and environmental investigation programs should be thoroughly evaluated to identify programs that are effective, as well as to identify problems that require additional attention, staff training, or technical assistance. Evaluation of case management is also needed as a baseline for evaluating performance nationally and also for the purpose of determining whether/how case management and environmental investigation make a difference. In particular, this survey suggests that staff in many states could benefit from training in key areas, such as program evaluation and Medicaid and insurance reimbursement.

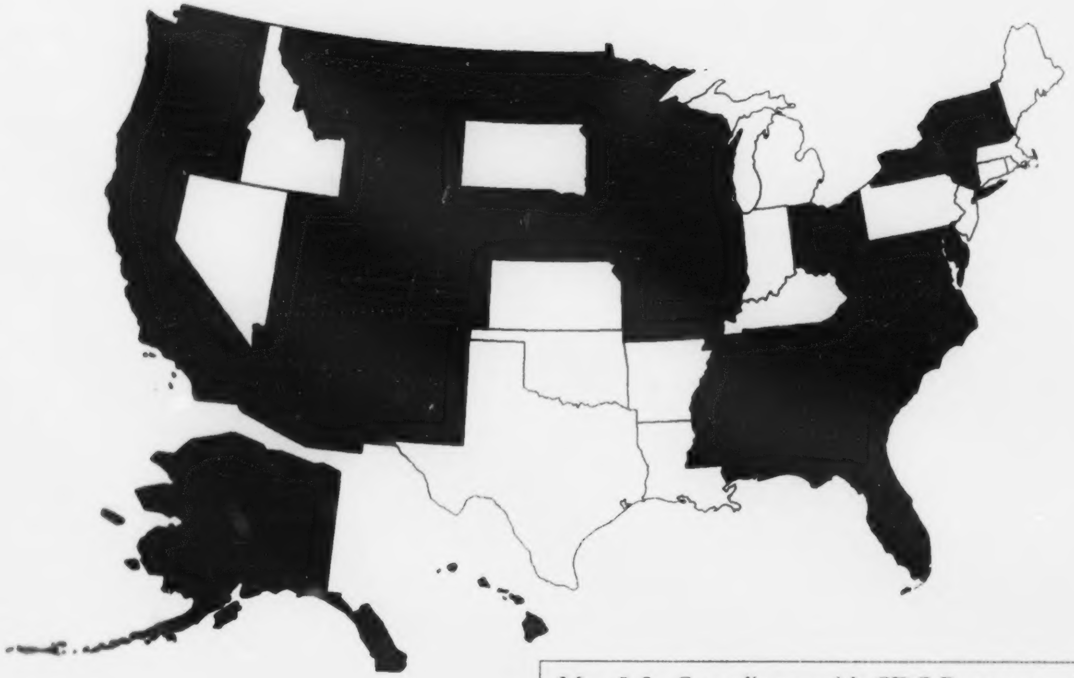
Recommendations:

- CDC should undertake or fund formal evaluations of state case management and environmental investigation programs. Programs should be given the tools and opportunity to meet goals and improve performance. However, if state or local programs are not able to achieve basic standards of performance in follow-up of lead-poisoned children, federal funding should be terminated.
- CDC should sponsor a system of peer evaluation for state and local lead programs. A peer evaluation program would allow state program staff to learn from and share with one another, reinforcing the replication of innovative and effective practices.



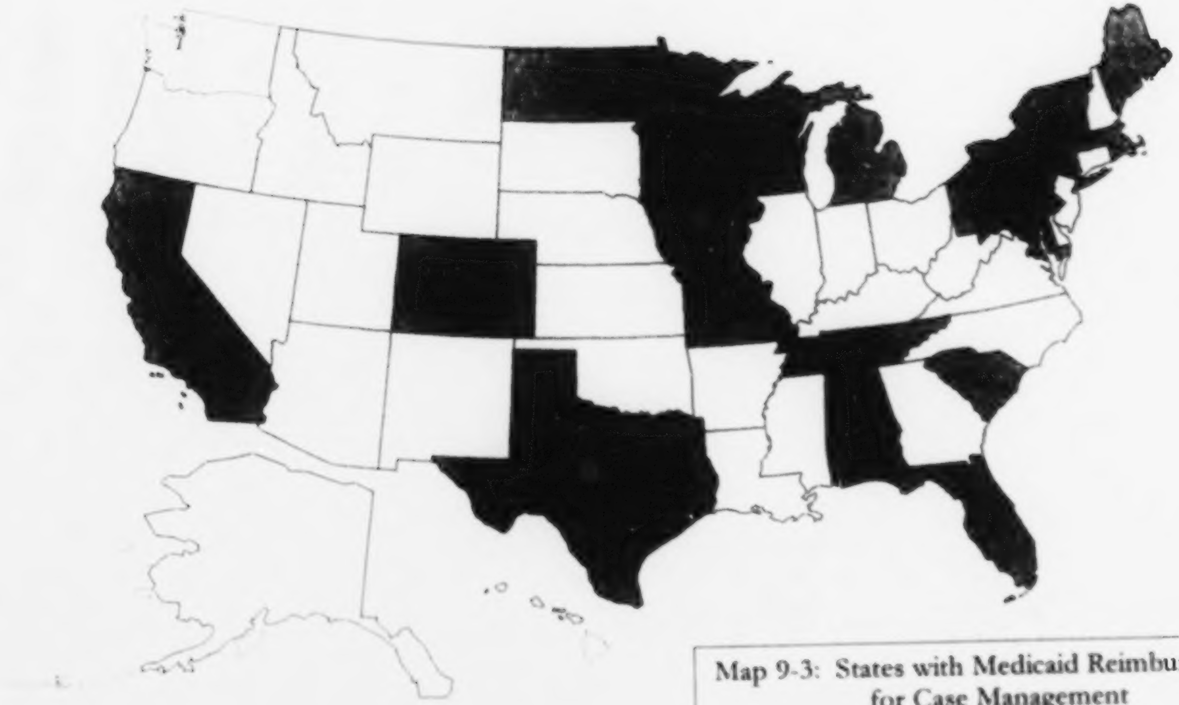
Map 9-1: Compliance with CDC Recommendations on BLL for Environmental Investigation

☐ No (29)
☐ No response (1)
■ Yes (21)



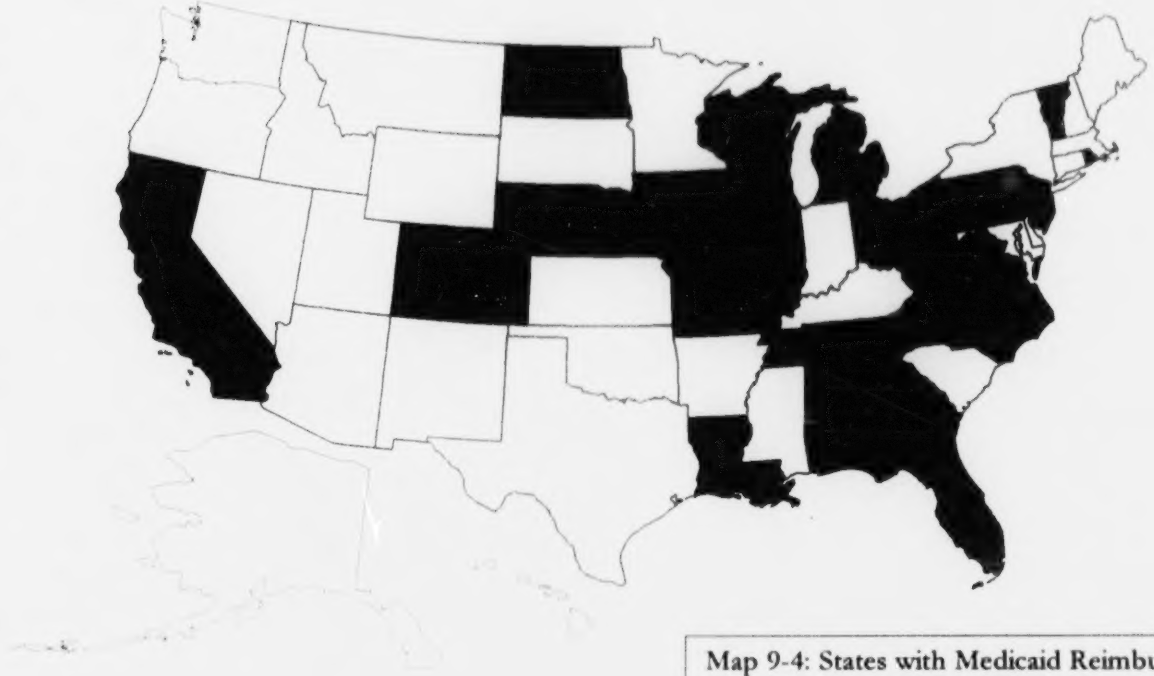
Map 9-2: Compliance with CDC Recommendations on BLL for Case Management

☐ No (14)
☐ No response (3)
■ Yes (34)



Map 9-3: States with Medicaid Reimbursement for Case Management

☐ No (31)
■ Yes (20)



Map 9-4: States with Medicaid Reimbursement for Environmental Investigation

☐ No (29)
■ Yes (22)

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APPENDIX
GLOSSARY OF ABBREVIATIONS

BLL	Blood lead levels
CDC	U.S. Centers for Disease Control and Prevention
CLP	Childhood lead poisoning
CLPPP	Childhood lead poisoning prevention program
CM	Case management
EBL	Elevated blood lead level
EI	Environmental investigation to determine the source(s) of lead exposure for a poisoned child
EPA	U.S. Environmental Protection Agency
EPSDT	Early and Periodic Screening, Diagnostic and Treatment Program
HCFA	U.S. Health Care Financing Administration
HD	Health department
HUD	U.S. Department of Housing and Urban Development
LHD	Local health department
LPPP	Lead poisoning prevention program
MCH	Maternal and child health
MCO	Managed care organization
PCP	Primary care provider
PHN	Public health nurse
SW	Social worker
XRF	X-ray fluorescence analyzer

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